Summer 2018

Sexual Violence Victimization, Mental Health, and University-Based Health Service Use Among College Females

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SEXUAL VIOLENCE VICTIMIZATION, MENTAL HEALTH, AND UNIVERSITY-BASED HEALTH SERVICE USE AMONG COLLEGE FEMALES

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A Dissertation Submitted to the Faculty of
Old Dominion University in Partial Fulfillment of the
Requirements for the Degree of

DOCTOR OF PHILOSOPHY

HEALTH SERVICES RESEARCH

OLD DOMINION UNIVERSITY
August, 2018

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ABSTRACT

SEXUAL VIOLENCE VICTIMIZATION, MENTAL HEALTH, AND UNIVERSITY-BASED HEALTH SERVICE USE AMONG COLLEGE FEMALES

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Females between the ages of 18 and 24 consistently experience higher rates of sexual violence compared to females in any other age group (Sinozich & Langton, 2014). Approximately one in five college women experience sexual violence victimization (SVV; Krebs, Lindquist, Berzofsky, Shook-Sa & Peterson, 2016) during the academic year. Among undergraduate female students, 23.1% are victims of sexual violence due to physical force, violence or incapacitation (Cantor et al., 2015). Sexual victimization has been associated with several short- and long-term psychological health consequences, accounting for enhanced symptoms of depression, anxiety, PTSD, and suicide risk (Basile, Smith, Breiding, Black & Mahendra, 2014). Compared with the general population, college women are consistently less likely to disclose an experience of sexual assault (Fisher, Cullen & Turner, 2000). Despite the high rates of sexual violence against college females, only 11% of rapes are reported to college authorities, making sexual victimization the most underreported violent crime among this population (Kilpatrick, Resnick, Ruggiero, Conoscenti & McCauley, 2007). College students are 13% less likely to report an incident of sexual assault to police versus nonstudents in the same age group (Sinozich & Langton, 2014) and one-third of female students never tell anyone about the victimization (Fisher et al., 2000)

The overarching purpose of this dissertation was to examine sexual violence victimization, mental health and health service utilization among college females using an emotion science framework. The first purpose of this dissertation was to perform a systematic review to examine the frequency of sexual victimization and the moderating characteristics of utilization of college-based health resources (Stoner & Cramer, 2017; Article I). The second purpose was to test a coping-mental health framework for the prevention of suicide among sexual minority and heterosexual victims of assault sexual assault victims (Article II). The third purpose was to examine rates of sexual victimization and health service utilization in a sample population, to examine how mental health symptoms impact health service use, and examine the rates of actual and willingness to use health services (Article III).

The systematic review (Article I) revealed a gross mismatch between the prevalence rates of sexual victimization and the utilization rates of health services post victimization. Findings from Article II suggested that an association exists between sexual assault and suicidality and is significantly stronger among individuals who self-identify as a sexual minority. Further, the findings supported a coping-mental health framework for the prevention of suicide among sexual assault victims. Article III uncovered higher rates of victimization among the sample population compared to rates found in other national studies. Further, this research supported prior literature on health service use, suggesting a low frequency of usage of on-campus health resources.

This dissertation is dedicated to the brave survivors of sexual violence.

ACKNOWLEDGMENTS

First and most importantly, I would like to acknowledge and thank my committee, Dr. Robert Cramer, Dr. Abby Braitman, and Dr. Daniel Russell. I am deeply appreciative to my committee members for their professional guidance and expertise throughout the course of my dissertation. To my committee chair, Dr. Robert Cramer, thank you for helping me navigate this process and for challenging me to consider something different. Your mentorship, commitment to excellence, honesty, taste in music, and love of coffee is deeply appreciated.

Many other individuals contributed to the studies within this project. Thank you to each student who provided insight on the survey. Without your voice, change cannot occur. Thank you to Dr. Sarah Desmarais and to Tess Gemberling for their mentorship and guidance and to Dr. Nancy Badger and the ODU Counseling Center staff for supporting this research. Finally, to my colleagues at Eastern Virginia Medical School who provided endless personal and professional support along this journey.

I would also like to thank my family for their endless support. To my parents, for your endless encouragement, for making countless trips to Virginia, and for being a constant source of optimism. This was truly a team effort and I could not have done it without you. To Dan, thank you for traveling the good, bad, and ugly sides of this journey with me and still being here at the end. We made it count. And, to the two very best writing partners I could ever ask for; Stanley and Bree thank you for the love and snuggles.

Finally, and most important, to Tripp and Dylan, who have taught me that love has no boundaries.

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CHAPTER I

INTRODUCTION

Background

Sexual violence victimization (SVV) among college females has been examined through multiple lenses, including psychology and criminal justice. In 2004, the Centers for Disease Control and Prevention (CDC) released an article that reviewed violence against women from a public health framework that provided the groundwork for prevention programing (Graffunder, Noonan, Cox & Wheaton, 2004). The prevalence rates of rape and sexual assault have plateaued since 2007 (Planty, Langton, Krebs, Berzofsky & Smiley-McDonald, 2013; Truman & Morgan, 2016). Approximately one in five college women experience sexual violence victimization (SVV; Krebs et al, 2016) during the academic year. Among undergraduate female students, 23.1% are victims of sexual violence due to physical force, violence or incapacitation (Cantor et al., 2015).

Significant gaps remain within the literature, particularly concerning victim services (Taylor, 2014). One such area includes health services utilization. Despite years of research, many unknowns remain surrounding victim services and service utilization among female victims of sexual violence. This is especially true for the college-aged population, for which the majority of research has focused on disclosure to either criminal justice services or friends and family members (Sabina & Ho, 2015). To date, very few studies have focused on university-based health services and little remains known about help seeking behaviors among female victims of sexual violence as they relate to the utilization of health-related services on college campuses.

Adverse mental health outcomes resulting from sexual victimization have been well established. For instance, compared to the general population, female victims of sexual violence are nearly three times as likely to develop symptoms of depression and over three times as likely to develop an anxiety disorder (Chen et al., 2010). Further, compared with non-victims, female victims of sexual violence are twice as likely to be diagnosed with PTSD (Chen et al., 2010). Despite the vast amount of research on the mental health-victimization association, literature is lacking around the connection between mental health and health service utilization. Finally, to date, college student victimization and health service use literature has been largely a-theoretical.

Aims and Purpose of the Present Study

The existing data on sexual violence and health services uncovered a gross mismatch between the prevalence rates of sexual victimization and the utilization rates of health services post-victimization. A recent systematic review revealed sexual victimization prevalence rates of college females as high as 58% yet rates of health service utilization as low as 0% among victims (Stoner & Cramer, 2017). This dissertation examined sexual violence and health service utilization rates. In addition, mental health symptoms and the impact on service utilization was also examined. Article I provides a synthesis of findings related to sexual victimization and health service use among females on college campuses. The article examines barriers and facilitators to service use, and identifies areas for campus wide educational programs for sexual victimization. This dissertation also studied sexual victimization and mental health from an emotion science framework, which included emotion regulation and Need for Affect (NFA). Specifically, emotion regulation and NFA were examined as moderators of the link between sexual victimization and mental health outcomes and overall service use. Article II examined a mediation pathway between sexual assault and suicidality where emotion regulation and mental

health were significantly associated with suicidality. This article points to the increased importance of healthy coping skills within the victimization-mental health framework. Finally, Article II examines sexual violence, health service utilization and mental health within the emotion science framework. This article builds on literature and findings discussed in Articles I and II. The hypotheses below are specific to Article III.

Hypotheses

Hypothesis 1. Accounting for the influence of demographic covariates and main effects of individual differences in emotionality (i.e., NFA and emotion regulation), college women who are victims of sexual violence will experience more severe mental health symptoms than non-victims. Mental health symptoms include anxiety, depression, post-traumatic stress, stress, and suicide risk.

Hypothesis 2a. Accounting for the influence of demographic covariates and main effects of victimization, higher scores on cognitive reappraisal will be associated with less severe mental health symptoms.

Hypothesis 2b. Accounting for the influence of demographic covariates and main effects of victimization, higher scores of emotion suppression will be associated with more severe mental health symptoms.

Hypothesis 3. Emotion regulation skills will moderate the association between victimization and mental health symptoms (i.e., H1). Specifically, cognitive reappraisal will influence the association between victimization and mental health symptoms such that the slope of the cognitive appraisal-mental health association will be more negative for victims compared to non-victims. Also, emotion suppression will influence the association between victimization

and mental health symptoms such that the slope of the emotion suppression-mental health association will be more positive for victims compared to non-victims.

Hypothesis 4. NFA will moderate the association between victimization and mental health symptoms (i.e., H1). There is not enough literature to postulate a directional hypothesis for approach or avoidance. NFA will be examined in an exploratory manner for additional main and moderating effects concerning mental health.

Hypothesis 5. Victims of sexual violence will report less service use (i.e., willingness to and actual use) compared to non-victims (services include, but are not limited to, student health centers, women's resource centers, and counseling centers). This is expected in part because victims are more inclined to disclose sexual victimization experiences to informal sources (i.e., friends, family) (e.g., Fisher et al., 2003, Littleton, 2010).

Hypothesis 6. Participants with more severe mental health symptoms will report more service use.

Hypothesis 7. Emotion regulation skills will moderate the association between victimization and service use (i.e., H6). Specifically, cognitive reappraisal will influence the association between victimization and health service use such that, as cognitive reappraisal increases, the slope of the victimization-health service use increases. In other words, as cognitive reappraisal increases, the strength of the victimization-health service use association strengthens. There is insufficient literature to postulate a directional hypothesis for emotional suppression, therefore it will be examined in an exploratory manner.

Hypothesis 8. NFA will moderate the association between victimization and service use (i.e., H6). There is not enough literature to postulate a directional hypothesis for approach or

avoidance. NFA will be examined in an exploratory manner for additional main and moderating effects concerning service use.

CHAPTER TWO

LITERATURE REVIEW

The purpose of this chapter was to review the literature regarding sexual victimization among college females, and the frequency and characteristics of health service utilization on college campuses. Article I (published in *Trauma, Violence & Abuse*) systematically reviewed the literature related to sexual victimization of college females and the utilization of health services on college campuses. Overall, this chapter provides a synthesis of the sexual victimization literature among college females and the effect of victimization on health service use and mental health.

ARTICLE I: SEXUAL VIOLENCE VICTIMIZATION AMONG COLLEGE FEMALES: A SYSTEMATIC REVIEW OF RATES, BARRIERS, AND FACILITATORS OF HEALTH SERVICE UTILIZATION ON CAMPUS

Abstract

To date, little work specifically addresses empirical studies concerning barriers and facilitators to health service use among college female sexual violence victims. The following objectives were addressed: (1) analyze studies of college-aged women who have been victims of sexual violence to examine the frequency and moderating characteristics of utilization of university-based resources available, (2) identify inconsistencies and gaps in the literature concerning sexual victimization and service utilization, and (3) provide next steps for researchers and clinical care coordinators. Six electronic databases were searched from 1990 to May 2016. Inclusion criteria for the review were: 1) university or college setting or sample, (2) empirical design, and (3) inclusion of some discussion or measurement of health service use. Following PRISMA procedures, twenty-two articles were identified for the review. Although prevalence rates of sexual victimization were high (4.7% - 58%), rates of service utilization were lower (0% - 42%). There were significant discrepancies between hypothetical use of services and actual rates of service use. Identified barriers included feelings of shame, guilt and embarrassment, not wanting friends and family to find out, and thinking the victimization was not serious enough to report. Identified facilitators included acknowledging the sexual violence victimization as a crime, receiving encouragement from friends and family to utilize health services, and receiving a positive response during the initial informal disclosure. Finally, measurement of victimization was inconsistent across studies. Recommendations are offered for college campus prevention programming and future research.

Introduction

The Centers for Disease Control and Prevention (CDC) defines sexual violence victimization (SVV) as a sexual act that is committed or attempted by another person without freely given consent of the victim or against someone who is unable to consent or refuse (Basile, Smith, Breiding, Black & Mahendra, 2014). It is estimated that in the United States, nearly 20% of women have experienced rape or attempted rape in their lifetime and over 40% have experienced another form of SVV including unwanted sexual contact and sexual coercion (Breiding, Chen & Black, 2014). Based on data from the National Crime Victimization Survey (NCVS), females age 18-24 experience higher rates of rape and sexual assault than any other age group (Sinozich & Langton, 2014). This group is of particular importance as this is the time period when females are matriculating for the first time (Arnett, 2000), often away from home. Data from a large, cross-sectional survey revealed that nearly 20% of college females reported being victims of SVV since their first year of college (Krebs, Lindquist, Warner, Fisher & Martin, 2007), while national level data revealed that 23% of women were victims of sexual assault through physical force, violence, or incapacitation during their undergraduate years (Sinozich & Langton, 2014), and the National Intimate Partner and Sexual Violence Survey reported that 37% of women rape victims were first raped between the ages of 18-24 (Black et al., 2011).

SVV is associated with several short- and long-term physical and psychological health consequences. Victims may suffer from immediate bruising, re-occurring gynecological and sexual health problems, depression, anxiety, suicidal thoughts, post-traumatic stress disorder (PTSD) (Basile et al., 2014), and decreased self-esteem (Perilloux, Duntley & Buss, 2012). Victims are also more likely to engage in risky health behaviors such as sex with multiple

partners, low rates of condom use, and sex with strangers (Jewkes, Sen & Garcia-Moreno, 2002). College women in particular are more likely to suffer from substance abuse issues including drug use and binge drinking (Turchik & Hassija, 2014) in large part due to the social environment of the college campus itself. Finally, SVV is negatively associated with academic achievement among college females. Women who are victimized during their first year of college report lower overall GPAs compared to non-victims (Jordan, Combs & Smith, 2014). Taking into account the negative outcomes associated with SVV, it is important to examine the ways in which victims seek assistance for the assault and health-related impacts.

Compared with the general population, college women are consistently less likely to disclose an experience of sexual assault (Fisher, Cullen & Turner, 2000). Despite the high rates of SVV against college females, only 11% of rapes are reported to college authorities, making SVV the most underreported violent crime among this population (Kilpatrick, Resnick, Ruggiero, Conoscenti & McCauley, 2007). College students are 13% less likely to report an incident of SVV to police versus nonstudents in the same age group (Sinozich & Langton, 2014) and one-third of female students never tell anyone about the assault (Fisher et al., 2000). SVV literature commonly breaks down reporting into two disclosure sources: formal (e.g., physician, law enforcement) and informal (e.g., family member, friend). Research on formal disclosure primarily focuses on reports made to campus police or law enforcement agencies. To date, very few studies have focused on university-based health services and little remains known about help seeking behaviors among victims of SVV as they relate to the utilization of health-related services. Health services are defined as student health centers, crisis response centers, counseling and psychological services, women's resource centers, and counseling centers (American College Health Association, 2010). Moreover, little exists in the way of understanding barriers

and facilitators to utilizing university-based health services. From what does exist, a number of themes in barriers to use have emerged including fear, embarrassment, concerns over confidentiality, and the victim's belief that the assault was not serious enough to be considered a crime (Sabina & Ho, 2014). Facilitators to reporting SVV often include the desire to prevent the incident from happening to someone else and wanting to educating the public about SVV on campus (Sabina & Ho, 2014). It is noteworthy that many of the victimization specific barriers and facilitators differ substantially from documented demographic (e.g., age, ethnicity) and school specific (e.g., private versus public) barriers and facilitators associated with use among the general college population (Turner & Keller, 2015).

The Present Study

SVV among college women is a prevalent public health problem and has been discussed extensively within the criminal justice, psychology, and women's health literature. Yet, there has been no evidence of a reduction in rates over the past 15 years (Kilpatrick et al., 2007). This review examines empirical studies on formal disclosure, informal disclosure, and service use among college females with a specific focus on health services utilization. This review adds to the current literature by focusing on empirical studies specific to female college victims who report episodes of SVV to a university-based health care provider. This systematic review builds on prior literature that focused on reporting to criminal justice and law enforcement personnel, including a recent SR conducted by Sabina and Ho (2014). While there is some overlap in the inclusion criteria between the current study and Sabina and Ho's (2014) SR, the prior included articles focused on intimate partner violence (IPV), whereas this SR did not. University-based health services such as college counseling and women's resource centers provide distinct services and programs for victims, necessitating independent evaluation of existing evidence

apart from criminal justice-involved personnel and processes. The following objectives were addressed: (1) analyze studies of college-aged women who have been victims of SVV to examine the frequency and moderating characteristics of utilization of university-based resources available, (2) identify inconsistencies and gaps in the literature concerning sexual victimization and service utilization, and (3) provide next steps for researchers and clinical care coordinators.

Method

Search Strategy

An SR of the literature was conducted between July and August 2016. Studies were identified using six major search engines: Criminal Justice Abstracts, ERIC, MedLine, PsychArticles, PsychInfo and PubMed. The PRISMA 2009 Checklist (Moher, Liberati, Tetzlaff & Altman, 2009) was used to guide parameters for the SR. Items on the checklist associated with meta-analysis were excluded, as these were outside the scope of the present paper. The second author served as the additional reviewer for the final list of articles to ensure inter-rater consistency.

Four groups of search terms were identified with the purpose of identifying all available literature on SVV, health service utilization, sample population, and sample setting. Consistent with the CDC definition above, to address SVV, search terms included: rape, sexual assault, forced sexual coercion, and sexual victimization. To address health service utilization, the following terms were searched: student health center, crisis response center, counseling and psychological services, women's resource center, counseling center, mental health, medical, and help seeking. The sample population terms included: college student, young adult, emerging adult, survivor, and female, and the sample setting terms included: university, college, and campus. Figure I.1 represents the stepwise approach to identifying key articles for the review.

Inclusion and Exclusion Criteria

Inclusion criteria for the review included (1) university or college setting or sample, (2) empirical (quantitative, qualitative, or mixed-method) design, and (3) included some discussion or measurement of health service use. The search was limited to English language, peer-reviewed publications between 1990 and May 2016. Articles prior to 1990 were excluded, as prior to this date federal legislation in the form of the Clery Act (updated as the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act, 2000) addressing campus SVV did not exist. Specifically, the Clery Act requires any college or university participating in the federal student aid program to disclose all forcible and non-forcible sexual offenses, and to make available campus safety information, campus crime statistics and campus security policies on an annual basis. Exclusion criteria for the review included (1) male and/or female-to-male populations, (2) articles focused on intimate partner violence (IPV) or dating violence, and (3) articles that mainly focused on sexual assault disclosure to criminal justice or law enforcement personnel.

Results

Overview of Methods of Studies Reviewed

Table I.1 presents the prevalence rates, sample characteristics, procedures, pertinent findings, barriers and facilitators to service use, domains of service utilization, and SVV measurement tools for each of the 22 studies included in this review. The studies utilized a range of study methods, including cross-sectional surveys (e.g., Allen, et al., 2015; Eisenberg et al., 2016; Lindquist et al., 2013), longitudinal studies (Breitenbecher & Scarce, 2001; Littleton, 2010; Orchowski & Gidycz, 2012), a qualitative study (Guerette & Caron, 2007), and an SR (Sabina & Ho, 2014). Sampling strategies largely consisted of convenience samples, recruited

through campus advertisements, courses, or specific academic departments. Seven studies (e.g., Amstadter et al., 2010; Fisher et al., 2003; Wolitzky-Taylor et al., 2011) used nationally representative samples of college students, including three that used random sampling through the American Student List (ASL) which lists over 6 million students currently enrolled in college in the United States. The diversity of study designs and larger sample sizes increase the generalizability of the studies. However, many studies used the same sample or dataset to answer different research questions.

Themes in Service Use

The prevalence rates of SVV on college campuses were routinely high, with an overall range of 4.7% (Eisenberg et al., 2016) to 58% (Amstadter et al., 2010) in reviewed studies. Studies consistently revealed low rates of service utilization, except when hypothetical reporting was explored. In these cases, large discrepancies were revealed between perceived and actual use of campus services. A survey of 633 undergraduate students revealed 62% of non-victims reported that they would be somewhat or very likely to utilize the campus rape crisis center if they experienced an unwanted sexual assault (Banyard et al., 2007). To the contrary, only 5% of victims from the same sample reported actually using the same rape crisis center after an unwanted sexual assault (Banyard et al., 2007). Nasta et al. (2005) found similar significant differences between hypothesized utilization of services and actual utilization of services by victims. Reported hypothetical use of campus health services was 81% while actual reported use by victims after a sexual assault was only 12% (Nasta et al., 2005).

Prior research has suggested that awareness of campus resources is positively associated with utilization (Amar, 2008). Victims frequently reported being unaware of available resources as reasons for not seeking help after a sexual assault. Two studies in this review focused on

resource awareness (Nasta et al., 2005 & Walsh et al., 2010). The findings varied significantly. Nasta et al. (2005) reported that 97% of victims were familiar with at least one on-campus resource while Walsh et al. (2010), who surveyed a similar sample, found that only 50% of victims could locate the support center on campus. Yet, both studies revealed high rates of hypothesized use of resources; 63% and 45% (respectively) of non-victims in each study reported high-perceived willingness to use resources if they experienced a sexual assault. This finding suggests that knowledge and utilization of resources are relatively unrelated.

Nearly every study differentiated between formal and informal sources of disclosure. Formal sources included campus counseling centers, rape crisis centers, student health centers, professional counselors or therapists, women's centers and physicians (e.g., Amar, 2008; Fisher et al., 1999; Walsh et al., 2010). Informal sources included friends, family members, roommates and romantic partners (e.g., Banyard et al., 2007; Orchowski & Gidycz, 2012; Sipsma et al., 2000). Rates of disclosure to formal sources ranged from 5% of undergraduate students in a convenience study (Banyard et al., 2007) to 48% of undergraduate rape victims using a national sample (Amstadter et al., 2010), whereas rates of disclosure to informal sources ranged from 32% of rape victims in a follow-up study (Littleton, 2010) to 88% of victims in a large, nationally representative study (Fisher et al., 2003), suggesting that victims of an unwanted sexual encounter are more likely to seek help from an informal source.

Facilitators to Health Service Use

There were a number of factors observed that enhanced the likelihood of health service utilization. The most common reason that female students utilized the available health services was because she believed that what she experienced was a crime (Guerette & Caron, 2007; Littleton et al., 2006; Orchowski et al., 2013). Further, women who acknowledged the sexual

assault as a criminal act were significantly more likely to utilize formal health services than women who did not acknowledge the victimization as crime (Littleton et al., 2006). In a study of 1,253 college females, 256 (20%) screened as having at least one experience of sexual violence victimization since the age of 14, yet only 101 (40%) of the victims acknowledged that they had been victimized (Littleton et al., 2006). Between the two groups, victims who acknowledged the criminal act were significantly more likely to have reported the victimization than those individuals who did not acknowledge the crime. Females who received encouragement from family and friends to utilize formal resources and women who received a positive response during the initial informal disclosure (Guerette & Caron, 2007; Littleton, 2010) are also more likely to utilize health services after a sexual assault. Sustaining physical injury was also associated with higher rates of utilization (e.g., Fisher et al., 2003; Lindquist et al., 2013; Wolitzky-Taylor et al., 2011). Among women who were physically injured, 52% reported their rape versus 14% of those who were not harmed (Wolitzky-Taylor et al., 2011). Additionally, females who experienced symptoms of PTSD were also more likely to utilize health services (Amstader et al., 2010; Littleton, 2010) and females who were assaulted by more than one offender sought help at higher rates (Gidycz & Koss, 1990). Other factors positively associated with use of health services included wanting to prevent another assault (Guerette & Caron, 2007), having a designated person on campus as a resource (Amar, 2008), and being concerned with STDs and pregnancy (Guerette & Caron, 2007).

Barriers to Health Service Use

Feelings of shame, guilt and embarrassment (e.g., Allen et al., 2015; Guerette & Caron, 2007; Orchowski & Gidycz, 2012;), not wanting friends and family to find out (e.g., Allen et al., 2015; Fisher et al., 2003; Walsh et al., 2010), and thinking the victimization was not serious

enough to report (e.g., Fisher et al., 1999; Orchowski et al., 2013; Walsh et al., 2010), were among the top reasons why women did not access health services after a sexual victimization. For instance, using mean Likert scale scores (where 1 was *never* and 5 was *very often*), shame, guilt and embarrassment received a mean score of 4.45 among female college students rating perceived barriers to service use. In the same study, not wanting friends and family to find out about the victimization resulted in a mean score of 4.26 (Allen et al., 2015). Findings from one of the largest studies using a national college age sample found that 81.7% of college women failed to utilize a health service because they did not believe the events surround the sexual assault were serious enough (Fisher et al., 1999; Fisher et al., 2003). Rape classification also had an impact on whether a woman utilized health services. Victims of incapacitated assault (i.e., unable to provide consent) were less likely to utilize health services when compared to victims of forced assault (i.e., where physical force was used) (e.g., Amar, 2008; Fisher et al., 2003; Wolitzky-Taylor et al., 2011). For example, when compared to victims of forced rape (13.9%), victims of incapacitated rape only sought out medical and psychological care 7.6% of the time (Lindquist et al., 2013). Females who received a negative response during an informal disclosure were also less likely to utilize services (e.g., Guerette & Caron, 2007; Littleton, 2010; Walsh et al., 2010). Other factors negatively associated with service use included fear of retaliation from the perpetrator (Allen et al., 2015; Fisher et al., 1999; Walsh et al., 2010), having a relationship with the perpetrator (Orchowski & Gidycz, 2012; Sipsma et al., 2000), and alcohol use during the time of the attack (Amar, 2008; Lindquist et al., 2013).

Measurement Themes

Although not an original intent of this review, a theme that emerged was inconsistency in the measurement of victimization, both with respect to the time frame and measurement tools.

There were wide ranging time periods measured among the articles: six articles (e.g., Littleton, 2010; Orchowski et al, 2009; Sipsma et al., 2000) measured SVV from the age of 14, which is aligned with the Sexual Experiences Survey (SES), four articles measured SVV over the lifetime (e.g., Amstadter et al., 2010; Wolitzky-Taylor et al., 2011) or over the academic year (e.g., Banyard et al., 2007; Fisher et al., 1999;), two articles (Breitenbecher & Scarce, 2001; Walsh et al., 2010) measured using multiple methods and one article (Eisenberg et al., 2016) measured using the prior calendar year. Finally, two articles (Gidycz & Koss, 1990; Guerette & Caron, 2007) measured SVV using a range of time frames (i.e., between two months and 6 years). The two most common measurement tools used were the SES (Koss et al., 1987; Koss & Gidycz, 1985; Koss & Oros, 1982) and researcher-developed surveys. Other survey instruments included the Rape and Sexual Assault Campus Awareness Survey (Sable et al., 2006), the National College Health Assessment (ACHA; 2014), and the Child Sexual Abuse Questionnaire (CSAQ) (Finkelhor, 1979).

Discussion

Despite the high rates of SVV identified in this review, little research has been done on the utilization of health services on college campuses after a female student has been sexually assaulted. Our findings suggest a mismatch between high rates of victimization and low use of health services.

Research Implications

This review revealed significant inconsistencies in how SVV is measured. First, the way in which unwanted sexual experience was assessed varied. For example, although the SES was the most commonly used tool for measuring unwanted sexual experiences, only five (e.g., Gidycz & Koss, 1990; Orchowski et al., 2009; 2013; Sipsma et al., 2000) of the ten studies that

used the SES kept its original format of ten items. Other forms of the SES were modified to include between two and nine items (e.g., Allen et al., 2015; Breitenbecher & Scarce, 2001; Littleton, 2010;). Further, a number of studies (e.g., Amar, 2008; Banyard et al., 2007; Fisher et al., 1999;) utilized an investigator-developed survey to measure unwanted sexual experiences. These surveys often lack reliability and validity, and do not allow for comparison across studies. Another important limitation of SVV measurement is a lack of consistency with legal definitions. The time period measured was diverse, ranging from seven months (Fisher et al., 2003) to the period of a lifetime (Amstadter et al., 2010). Further, the time period measured did not necessarily relate to the tool being utilized. Traditionally, the SES examines unwanted sexual experiences beginning at age 14 (Koss & Oros, 1982), however, Walsh et al. (2010), employed the SES in their cross-sectional study of undergraduate women and examined SVV over the course of the lifetime, creating a discrepancy between measurement tool and time period. Lack of a uniform time period makes it difficult to isolate when the sexual assault occurred. The SVV literature would largely benefit from the establishment of measurement tool that is reliable and valid and consistently measures unwanted sexual experiences under the legal definition.

Reflective of the inconsistent definitions is the wide range of SVV rates (i.e., 4-58%). Such a wide range is problematic in gaining a true sense of the commonality of SVV. Perhaps rates should be stratified by level of severity. That is, a potential solution for empirical research and college health surveillance data moving forward would be to define subtypes or gradations of severity. For example, rates may range from unwanted touching to forcible penetration.

The majority of studies reviewed utilized a cross-sectional research approach (e.g., Allen et al., 2015; Amar, 2008; Amstadter et al., 2010; Banyard et al., 2007;). Although this method has produced meaningful information, it prohibits the researcher from establishing a causal

relationship between SVV and health service utilization. Future research would benefit from prospective and longitudinal approaches, allowing for better understanding long-term, how SVV affects an individual and the choices they make, ultimately helping to determine where to focus prevention and intervention efforts.

Prevention Implications

Over the past three decades, it has become increasingly common for a woman to reveal an episode of SVV to a friend or peer (Baumer, 2004). This review supports prior research that indicates 88% of victims reported an unwanted incident to a friend (Fisher et al., 2003). The high rates of disclosure raise two important issues. First, victims see their friends as valued confidants, yet it is unlikely that friends of victims are prepared for the disclosure, resulting in a possible unintended negative response. This is troublesome as negative reactions often discourage further disclosures and hamper recovery. Educating college students, particularly women, on how to best respond to a disclosure in a way that allows the survivor to tell her story without feeling blamed or stigmatized is an important first step in a victim's healing process. Second, peers often serve as the gateway to formal health care services. Unfortunately, very few college students are knowledgeable about the available campus resources. It is important that individuals are informed and able to provide the victim with recommendations to the most appropriate campus providers.

Victims of sexual violence are most comfortable reporting unwanted experiences to their friends. This provides a natural pathway for setting up peer educator programs focused on preventing and responding to SVV on college campuses. Peer health education (PHE) programs have been used on college campuses to address topics including alcohol use, obesity, and nutrition (White et al., 2009). For example, a three-year longitudinal study examining the impact

of PHE on alcohol and drug use, eating and nutrition, and sexual health found that students who had contact with a peer educator were significantly less likely to consume alcohol, had fewer negative outcomes due to alcohol use and decreased unhealthy eating habits (White et al., 2009). The advantage of a peer educator program is that having student status allows the peer educator access to situations that university administrators, faculty, and health professionals do not have. Regarding sexual victimization, students are already serving as peer educators but lacking the proper training. We recommend comprehensive PHE programs with training on the definitions of sexual violence (i.e., what defines a criminal act), the role of alcohol and drugs, strategies on how to appropriately respond during a sexual assault disclosure, and what to avoid when responding. Further, all peer educators should be trained on the campus resources available to victims and the way in which a victim can connect with each resource.

When discussing low rates of service utilization, the focus tends to rest on the victim. Building on a recommendation made by Sabina and Ho (2014), we must also look at the college environment for reasons for low disclosure. Research supports a team-based approach to responding to sexual assault involving medical and psychological providers, sexual assault counselors, and campus police (Nasta et al., 2005). Yet, on nearly all college campuses these providers are housed in separate buildings, on different parts of the campus. This forces the student to make multiple visits to multiple providers during a time when motivation is already low. We recommend transitioning to medical home model where students would receive comprehensive health care and resources in one place.

Limitations and Future Directions

The following are noted limitations of this review. First, campuses often vary in noted health services and very few studies reviewed or provided this information. Second, a review of

on-campus health service utilization fails to account for student use of external health resources such as off-campus physicians or therapists. Moving forward, college health surveillance data should track use of these resources. Third, in line with the limitation of gradation of severity discussed above, it is plausible that a victim is resilient enough not to need health services in instances of minor victimization (e.g., unwanted touch). Moreover, post-traumatic growth literature suggests that some victims develop strength post-victimization. Collectively, these are noted exceptions to the victimization health services link worth of future research. Finally, reputation and quality of services may mitigate service use. This potential barrier is also worthy of future investigation.

Table I.1.

Studies on Health Services Utilization by College Females Post Sexual Violence Victimization

Reference	Sample Characteristics	Procedures	Pertinent Findings	Moderating Factors (Facilitator/Barrier)	Domain of Service Utilization	SVV - Measurement Tool
Allen et al. (2015)	475 undergraduate students from a large, public Southeastern university; 74% female	• Cross-sectional • Perceptions of barriers to sexual assault disclosure and helpfulness of campus resources for survivors of sexual assault	• Top three perceived helpful campus resources: (1) student health center - women's clinic (2) office for sexual health and violence prevention (3) university counseling center	• Barriers: feelings of shame, guilt or embarrassment, not wanting friends/family to know, fear of retaliation by the perpetrator, fear of not being believed, not sure a crime had been committed, unsure how to obtain help • Facilitators: N/A	• Formal: office for sexual health and violence prevention, university counseling center, student health center - general medicine clinic, student health center - women's clinic • Informal: N/A	• Survey Tool: Rape and Sexual Assault Campus Awareness Survey (Sable et al., 2006) • Time Period: N/A
Amar (2008)	144 undergraduate students from a historically Black college in the South; 100% female	• Cross-sectional • Perceptions of campus resources and perceived barriers to reporting sexual violence	• 71% willing to report SVV to campus health services within 2 weeks of incident	• Barriers: N/A • Facilitators: having injuries, having the time to go, having a designated person on campus to handle sexual assault	• Formal: health care professionals, campus health services, campus counseling services • Informal: N/A	• Survey Tool: Investigator-developed instrument • Time Period: N/A

Table I.1. Continued

Reference	Sample Characteristics	Procedures	Pertinent Findings	Moderating Factors (Facilitator/Barrier)	Domain of Service Utilization	SVV - Measurement Tool
Amstadter et al. (2010)	228 undergraduate rape victims from national sample; 100% female	• Cross-sectional • Prevalence and correlates of help seeking behavior	• 52% sought help; 93% from a mental health specialist, 48% from a medical doctor	• Barriers: N/A • Facilitators: N/A	• Formal: medical doctor, mental health specialist • Informal: N/A	• Survey Tool: Investigator-developed instrument • Time Period: Lifetime
Banyard et al. (2007)	633 undergraduate students from a state university in New England; 64.4% female	• Cross-sectional • Gender differences among sexual victimization survivors in terms of characteristics of their experiences, reported consequences, and rates of disclosure	• 19.6% victims • 15% did not seek help • 61.9% of all respondents willing to use rape crisis center if to experience an SVV • 13% of victims used the counseling center • 5.0% of victims used a crisis center services	• Barriers: N/A • Facilitators: N/A	• Formal: rape crisis center, counselor • Informal: roommate, close friend, parent or guardian, other family member, romantic partner	• Survey Tool: Investigator-developed instrument • Time Period: Current academic year (prior 6 months)

Table I.1. Continued

Reference	Sample Characteristics	Procedures	Pertinent Findings	Moderating Factors (Facilitator/Barrier)	Domain of Service Utilization	SVV - Measurement Tool
Breitenbecher (2001)	94 college students from a large, Midwestern university; 100% female	• Longitudinal	• 33% experienced SVV during the 7-month follow-up period • No participant in either group sought professional counseling or crisis intervention services	• Barriers: N/A • Facilitators: N/A	• Formal: crisis center, professional counseling services • Informal: friend, family member	• Survey Tool: (A) Child Sexual Abuse Questionnaire (CSAQ) (Finkelhor, 1979) (B) Sexual Experience Survey (9 item modified version) (Koss, 1987) • Time Period: (A) Lifetime (B) After age 14 and during the 7 month follow-up period
Eisenberg et al. (2016)	10,590 undergraduate students from a national sample; 100% female	• Cross-sectional • Associations between campus-based resources for SVV prevention and the emotional well-being of female sexual assault victims	• 4.7% victims of SVV	• Barriers: N/A • Facilitators: having a high number of sexual assault resources available on campus	• Formal: hotline/24-hr support, SVV awareness events, support group or counseling	• Survey Tool: College Student Health Survey • Time Period: Prior 12 months

Table I.1. Continued

Reference	Sample Characteristics	Procedures	Pertinent Findings	Moderating Factors (Facilitator/Barrier)	Domain of Service Utilization	SVV - Measurement Tool
Fisher (1999)	4446 college students from a national sample; 100% female	• Cross-sectional • Sexual victimization reporting practices by college women	• 18.3% reported at least one incident of SVV • 2.1% used women's services, 11.3% sought help from a counselor or therapist	• Barriers: thinking the incident wasn't serious enough, not sure a crime had been committed, not having time to report, not wanting friends/family to know, fear of retaliation by the perpetrator, lacked evidence of attack • Facilitators: N/A	• Formal: women's program or service, victims service hotline, counselor, or therapist • Informal: parent, partner, family member, friend, roommate	• Survey Tool: Investigator-developed instrument • Time Period: Approximately 7 months
Fisher et al. (2003)	4446 college students from a national sample; 100% female	• Cross-sectional • Victims' willingness to report sexual victimization	• 84% victims of SVV • 70% of incidents disclosed to agency other than police or campus authorities, 1.0% disclosed to counseling services	• Barriers: thinking the incident wasn't serious enough, not wanting others to know, fear of retaliation, relationship with perpetrator • Facilitators: severity of incident	• Formal: counseling services • Informal: friends, family members, romantic partners	• Survey Tool: Investigator-developed instrument • Time Period: Approximately 7 months

Table I.1. Continued

Reference	Sample Characteristics	Procedures	Pertinent Findings	Moderating Factors (Facilitator/Barrier)	Domain of Service Utilization	SVV - Measurement Tool
Gidycz (1990)	88 college students from a national sample; 44 GSA victims; 44 ISA victims; 100% female GSA: Group sexual assault ISA: Individual sexual assault	• Cross-sectional • Compared characteristics and impact among victims of GSA and ISA	• 55% GSA victims sought therapy after the assault vs. 20% of ISA victims • 19% GSA victims sought crisis services vs. 0% of ISA victims	• Barriers: N/A • Facilitators: significant relationship between group assault, suicide and help-seeking	• Formal: rape crisis center, counseling center	• Survey Tool: Sexual Experiences Survey (10 item) (Koss & Gidycz, 1985) • Time Period: Ranged from less than 3 months to more than 5 years, focused on most severe assault
Guerette & Caron (2007)	12 women; victims/survivors of acquaintance rape	• Qualitative interviews • Impact of acquaintance rape on college women and actions taken after the assault	• 50% sought medical attention • 0% called a rape crisis hotline • 42% sought help of a professional counselor • 75% would encourage other victims/survivors to contact professional services	• Barriers: not ready accept happened, shame, guilt, too much time passed, not want to be labeled, negative response during disclosure • Facilitators: encouraged to seek out help, concerns re: STDs, what happened was wrong, want to prevent future assault, law enforcement serves as a bridge to medical resources, positive response during disclosure to another person	• Formal - physician, rape crisis center, counselor • Informal - Friend, family member	• Survey Tool: Investigator-developed instrument consisting of 30 open-ended questions • Time Period: Between 2 months and 6 years prior to interview

Table I.1. Continued

Reference	Sample Characteristics	Procedures	Pertinent Findings	Moderating Factors (Facilitator/Barrier)	Domain of Service Utilization	SVV - Measurement Tool
Kilpatrick et al. (2007)	2000 college students from a national sample; 100% female DFR: Drug and alcohol facilitated rape IR: Incapacitated rape FR: Forcible rape	• Cross-sectional	• 11.5% victims of SVV • 19% of IR victims and 14% of FR victims sought medical care • 30% reported seeking help from a professional • 15% IR victims and 22% of FR victims sought help from an agency that provides assistance to victims of crime	• Barriers: N/A • Facilitators: public education about rape, expansion of counseling and advocacy services for victims. Type of rape had an effect on help-seeking behavior. FR victims were more likely to seek out medical and psychological care compared with IR (56 v 27%)	• Formal - medical care, agency that provides services to crime victims	• Survey Tool: Investigator-developed instrument • Time Period: Lifetime
Lindquist et al. (2013)	358 undergraduate students from four historically Black colleges; 188 FSA victims; 250 ISA victims; 100% females FSA: Forced sexual assault ISA: Incapacitated sexual assault	• Cross-sectional • Context and post-assault actions of college sexual assault victims	• 69.3% FSA victims told someone of the assault; 13.9% contacted victim, crisis or health facility; 13.2% sought counseling • 55.7% of ISA victims told someone of the assault; 7.6% contacted victim, crisis or health facility; 4.4% sought counseling	• Barriers: N/A • Facilitators: physical injury. Type of rape has an effect on help-seeking behavior.	• Formal: victim's crisis center, health care facility, psychological counseling • Informal: N/A	• Survey Tool: Investigator-developed instrument • Time Period: Before entering college and after entering college

Table I.1. Continued

Reference	Sample Characteristics	Procedures	Pertinent Findings	Moderating Factors (Facilitator/Barrier)	Domain of Service Utilization	SVV - Measurement Tool
Littleton (2010)	262 undergraduate rape victims from three Southeastern universities; 74 completed a 6-month follow-up; 100% female	• Longitudinal (6-month follow-up)	• 16% of victims sought help from therapist/ counselor; 11% from a healthcare provider	• Barriers: negative response during disclosure to another person • Facilitators: social support, positive response during disclosure to another person	• Formal: health care provider, therapist/counselor • Informal: relative, friend, romantic partner, stranger	• Survey Tool: Sexual Experiences Survey (2 behavioral specific screening items) • Time Period: Since age of 14
Littleton et al. (2006)	256 undergraduate victims of unwanted sex from a large Southeastern university; 101 AV; 155 UV; 100% female AV: Acknowledged victim UV: Unacknowledged victim	• Cross-sectional • Coping strategies, disclosure behaviors, reactions received from others, and worldview of acknowledged and unacknowledged victims	• 40% acknowledged they had been victimized, 60% did not • 91% of AV and 80% of UV disclosed information about their unwanted sexual experience	• Barriers: N/A • Facilitators: acknowledgement of sexual victimization as a crime	• Formal: N/A • Informal: N/A	• Survey Tool: Sexual Experiences Survey (4 behavioral specific screening items) • Time Period: Since the age of 14

Table I.1. Continued

Reference	Sample Characteristics	Procedures	Pertinent Findings	Moderating Factors (Facilitator/Barrier)	Domain of Service Utilization	SVV - Measurement Tool
Nasta et al. (2005)	234 second, third and fourth year college students living on campus at Brown University; 100% female	• Cross-sectional • Victims and non-victims' knowledge and use of available on and off campus resources	• 38% victim of at least one episode of SVV • 12% reported use of health services; 8% psychological services; 7% campus counselors • 81% willing to use health services; 77% psychological services; 40% campus counselors	• Barriers: concerns around confidentiality, feelings of shame, guilt and embarrassment • Facilitators: N/A	• Formal: on-campus student counselors, health services, office of student life, psychological services, women's center • Informal: N/A	• Survey Tool: Sexual Experiences Survey and National Survey of InterGender Relationships (combined 10 items) • Time Period: Prior academic year
Orchowski & Gidycz (2012)	342 college students at a medium-sized Midwestern university living in first year residence hall; 100% female	• Longitudinal (7-month follow up) • Predictors of sexual assault disclosure, identify who women tell about sexual victimization, and examine responses of providers	• 35.8% victims of SVV from age of 14 to the time of baseline assessment • 8% of victims disclosed to formal providers • 19.6% victim of SVV during the follow-up period • 5% of victims in the follow-up group disclosed to a formal provider	• Barrier: relationship with the perpetrator • Facilitator: history of sexual assault	• Formal: N/A • Informal: mother, father, sibling, male peer, female peer	• Survey Tool: Sexual Experiences Survey (10 item) • Time Period: Since the age of 14 to baseline assessment and during the 7-month follow up

Table I.1. Continued

Reference	Sample Characteristics	Procedures	Pertinent Findings	Moderating Factors (Facilitator/Barrier)	Domain of Service Utilization	SVV - Measurement Tool
Orchowski et al. (2009)	300 college students from a medium-sized Midwestern university; 100% female	• Cross-sectional • College women's likelihood to report sexual victimization to various campus agencies	• 39.3% reported experiences of SVV • Women perceived themselves as more likely to report SVV to a friend, police or on a survey before reporting to the campus counseling center	• Barrier: N/A • Facilitator: history of sexual assault	• Formal: counseling center • Informal: friend	• Survey Tool: Sexual Experiences Survey (10 item) • Time Period: Since the age 14
Orchowski et al. (2013)	371 college students from a medium-sized Midwestern University that reported a history of sexual victimization; 100% female	• Cross-sectional • Factors associated victims' conceptualization of the experience	• 36% victims of SVV • 70% of victims disclosed the assault	• Barriers: N/A • Facilitators: history of sexual assault, labeling the experience as sexual assault/date rape/crime versus miscommunication	• Formal: N/A • Informal: N/A	• Survey Tool: Sexual Experiences Survey (10 item) (Koss & Oros, 1982) • Time Period: Since the age of 14

Table I.1. Continued

Reference	Sample Characteristics	Procedures	Pertinent Findings	Moderating Factors (Facilitator/Barrier)	Domain of Service Utilization	SVV - Measurement Tool
Sabina & Ho (2014)	45 articles and reports	• Systematic Review • Explored empirical research on formal and informal disclosure, service utilization and service provision among college students	• Rates of reporting varied across studies from 0% for campus services to 15.8% for victims, crisis, or health care centers • Physical and mental health services appear to be the most utilized • Victims of forcible assault are likely to utilized a crisis/ health center compared to victims of incapacitated assault	• Barriers: Feelings of fear, shame and embarrassment, not wanting friends/family to know, not thinking the incident was serious enough to report as a crime, concerns around confidentiality, f, not ready to accept what happened, denial, relationship with the perpetrator • Facilitators: encouragement from family/friends to seek out help, knowing what happened was wrong, wanting to prevent future assault, physical injury	• Formal: campus health services, health care providers, mental health professional, medical doctor, crisis center, rape crisis hotline • Informal: friend, family member, romantic partner, relative	• Survey Tool: Various • Time Period: Various

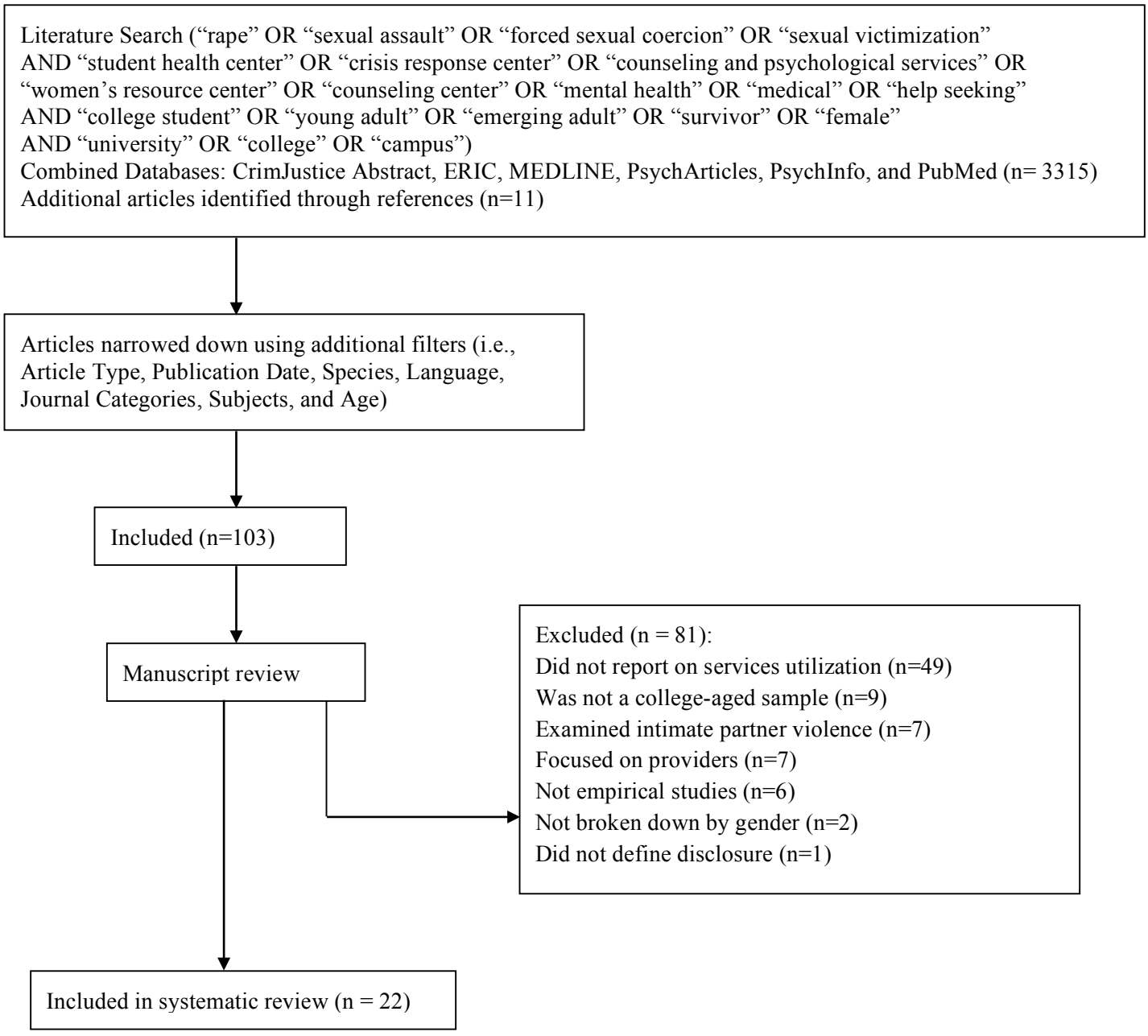
Table I.1. Continued

Reference	Sample Characteristics	Procedures	Pertinent Findings	Moderating Factors (Facilitator/Barrier)	Domain of Service Utilization	SVV - Measurement Tool
Sipsma et al. (2000)	223 undergraduate students at a major university campus in Spain (1st or 4th year); 54% female	• Cross-sectional • Attitudes about forced sex and actual experiences	• 33.2% victims of SVV • 17.6% of victims sought no help • 7% of victims sought help from a counselor, 10% from a physician, and 3% from a rape crisis center	• Barriers: relationship with the perpetrator • Facilitators: N/A	• Formal: counselor/therapist, hospital, physician, rape crisis center • Informal: friend, relative, parent	• Survey Tool: Sexual Experiences Survey (10 item) • Time Period: Since the age of 14
Walsh et al. (2010)	748 undergraduate students at a public New England university; 100% female	• Cross-sectional • Use of services after unwanted sexual contact or intercourse	• 20% victims of SVV • 97% of victims reported not using any services • 34% are not at all willing, 45% somewhat willing, and 21% very willing to use the counseling center if to experience SVV	• Barriers: felt it was a private matter, feelings of shame and embarrassment, not thinking the incident was serious, not wanting friends/family to know, fear of retribution by perpetrator, admission of failure, staff wouldn't understand	• Formal: campus sexual assault center, counseling center, health services • Informal: roommate, close friend, parent, other family member, romantic partner	• Survey Tool: (A) Investigator-developed instrument and (B) Sexual Experience Survey (3 items) • Time Period: (A) Current academic year and (B) Lifetime

Table I.1. Continued

Reference	Sample Characteristics	Procedures	Pertinent Findings	Moderating Factors (Facilitator/Barrier)	Domain of Service Utilization	SVV - Measurement Tool
Wolitzky-Taylor et al. (2011)	230 college rape victims from a national sample; 100% female	• Cross-sectional • Prevalence of reporting rape to formal sources and variables associated with reporting	• 18.7% of victims sought medical attention • 17.8% of victims sought help or advice from an agency that provides assistance to victims of crime (e.g., rape crisis center)	• Barriers: N/A • Facilitator: physical injury, law enforcement agency serving as a bridge to medical resources	• Formal: medical, rape crisis center	• Survey Tool: Investigator-developed survey • Time Period: Lifetime

Figure I.1. Flow diagram of article selection.



CHAPTER THREE

ARTICLE 2: A COPING-MENTAL HEALTH FRAMERWORK FOR THE PREVENTION OF SUICIDE AMONG SEXUAL MINORITY AND HETEROSEXUAL VICTIMS OF SEXUAL ASSAULT

Abstract

Objectives: To test a coping-mental health framework for the prevention of suicide among victims of sexual assault, and to explore whether sexual orientation moderates linkages from sexual assault to suicidality.

Methods: Data were drawn from an online survey of victimization experiences, health, and well-being (N=2175) conducted between fall 2014 and summer 2015. Structural equation modeling tested a moderated-mediation model. Bootstrap mediation tested whether the association of sexual assault with suicidality was mediated by psychological coping strategies (cognitive reappraisal, expressive suppression) and mental health problems (anxiety, depression, posttraumatic stress disorder). Multiple-groups analysis tested whether links within the mediation effects varied by sexual orientation.

Results: Sexual assault was associated with suicidality via a serial mediation through coping and mental health. The association between mental health problems and suicidality was stronger among sexual minority compared to heterosexual respondents.

Conclusions: Findings support a coping-mental health framework for the prevention of suicide among sexual assault victims. Interventions focused on improving psychological coping skills and targeting symptoms of anxiety, depression, and posttraumatic stress disorder may reduce suicidality among sexual assault victims, particular for sexual minority persons.

Introduction

Suicide is a significant – and preventable – public health issue. A leading cause of death in the United States (Centers for Disease Control and Prevention, 2018), some groups are at higher risk of suicide than others, such as victims of sexual assault (Davidson, Hughes, George, Blazer, 1996) and sexual minority persons (i.e., identifying as lesbian, gay, bisexual, questioning, or other; Rothman, Exner & Baughman, 2011). While the link between sexual assault and suicidality is well-established, the mechanisms through which sexual assault increases suicidality are less well understood. Hypothesized to operate through the impact on psychosocial functioning and mental health (Ullman, 2004), there have been few empirical investigations of processes linking sexual assault to suicidality. Instead, research has examined these associations in a piecemeal fashion; for example, examining correlates of suicide in victims of sexual assault or investigating risk factors for suicidality and sequelae of sexual assault separately (Liu & Miller, 2014; Ullman & Najdowski, 2009). A comprehensive model testing pathways from sexual assault to suicidality would help identify targets for suicide prevention and also would help account for the disproportionate rate of suicide among certain populations (e.g., sexual minority persons, victims of sexual assault, those with mental health problems).

The psychological-mediation framework (Hatzenbuehler, 2009), although specific to minority persons, offers a strategy for understanding how sexual assault increases suicidality through its impact on psychosocial functioning and mental health. The framework postulates that stigma-related experiences – both violence and non-violent - contribute to the development of mental health problems among sexual minority persons through poor psychological coping, interpersonal difficulties, and cognitive processes. Despite its intuitive appeal, there has been relatively limited empirical validation of the psychological-mediation framework as it relates to

stigma-related or non-stigma-related stressors, such as sexual assault, in sexual minority persons or otherwise. There also have been no known applications of the framework to more distal outcomes, including suicidality.

The Present Study

We extend the psychological-mediation framework to test a more general coping-mental health framework for the prevention of suicide among sexual minority and heterosexual sexual assault victims. Specifically, we propose the association of sexual assault with suicidality will be characterized by pathways from: (1) sexual assault to coping strategies (i.e., cognitive reappraisal, expressive suppression); (2) coping to mental health problems (i.e., symptoms of depression, anxiety, posttraumatic stress); and (3) mental health problems to suicidality. We further propose that these linkages will be stronger for sexual minority compared to heterosexual counterparts (see Figure II.1).

Method

Data

Data were drawn from a large, diverse sample of respondents who participated in an online survey of victimization experiences, health, and well-being (N=2175). Mean respondent age was 31.17 years (SD=13.34). Nearly two-thirds identified as female (60.5%, n=1,315), white (65.6%, n=1,427), heterosexual (64.7%, n=1,407), and college educated (61.4%, n = 1,462). Less than half reported an annual household income above $30,000 (40.7%, n=886). Further sample descriptives are reported in detail elsewhere (Cramer et al., 2017).

Measures

Sexual assault was queried with the item, “Have you ever been forced or frightened into doing something sexually that you didn't want to do?” (no, yes). *Psychological coping* was

measured using the Emotional Regulation Questionnaire (Gross & John, 2003) cognitive reappraisal (6 items, α=.79) and expressive suppression (4 items, α=.73) subscales. Mental health measures included symptoms of depression (7 items, α=.85) and anxiety (7 items, α=.81) symptoms assessed by the Depression, Anxiety, Stress Scales-21(Osman et al., 2012) and posttraumatic stress symptoms assessed with the 17-item Posttraumatic Stress Disorder Checklist-Civilian (α=.94; Conybeare, Behar, Solomon, Newman & Borkovec, 2012). To assess *suicidality*, we used the Suicidal Behaviors Questionnaire-Revised (Osman et al., 2001) total score (4 items; α=.76, Osman et al., 2001). Sexual orientation was assessed using a multiple-choice item (straight, lesbian/gay, bisexual, other). Sociodemographic items queried age (in years), income (<$10,000US, $10,000-$30,000US, >$30,000), education (high school or less, associates/bachelor degree, advanced degree), race (white, other), and gender (male, female, other).

Procedures

Respondents were recruited throughout the United States various electronic resources (e.g., website posting, email listserv). Eligible respondents (i.e., at least 18 years of age, minimum 10th grade education) completed an online consent form that preceded the online survey hosted by SurveyMonkey. Data collection was completed between fall 2014 and summer 2015. All procedures were approved by two Institutional Review Boards.

Data Analysis

Structural equation modeling via AMOS v.23 was conducted to test the psychological-mediation framework. Model fit was determined using established fit indices. Bootstrap mediation testing specified whether a mediation effect was present where the 95% Bias

Corrected Confidence Interval does not include zero. We used multiple-groups analysis to test which associations in the mediation model varied by sexual orientation.

Results

Descriptive Statistics

A total of 411 persons (18.9% of sample) reported lifetime sexual assault. On average, respondents reported sub-clinical levels of mental health symptoms, including PTSD (M=34.15, SD=14.82), depression (M=4.72, SD=4.98), and anxiety (M=3.62, SD=3.95),[10] as well as suicidality (M=6.47, SD = 3.34).[12] Sexual minority respondents reported higher rates of sexual assault, χ^2=94.61, p<.001, and mental symptoms, ts$\geq$3.10, ps$\leq$.002, than heterosexual respondents. Mean cognitive appraisal (M=28.60, SD=7.93) and emotion suppression (M=14.44, SD=5.44) scores did not differ as a function of sexual orientation, ps>.505.

Model Testing

The mediation model displayed adequate fit, $\chi^2(13)=338.920$, p<.001; CFI=.91; RMSEA=.10 (95%CI .10, .12); SRMR=.05. Sexual assault was associated with suicidality in the presence of the mediation pathway (β=.16, p<.001). As hypothesized, the pathway from sexual assault to suicidality through coping and mental health was significant (β=.10, p=.001, 95%BCCI .07, .13). The multiple-groups model, including moderation effects of sexual orientation, displayed adequate fit, $\chi^2(26)=364.85$, p<.001; CFI=.91; RMSEA=.08 (95%CI .07, .08); SRMR=.05. The overall mediation pathway remained significant across sexual orientation subgroups (heterosexual: β=.11, p<.001; sexual minority: β=.12, p<.001). However, the association between mental health and suicidality was stronger among sexual minority (β=.57, p<.001) compared to heterosexual respondents (β=.49, p<.001), Z=2.53, p<.001. Figure II.2 depicts the moderated-mediation model. Inclusion of significant demographic covariates (i.e.,

race and education) decreased model fit slightly, but all mediation and moderated mediation findings remained significant. (Full results not presented but available upon request.)

Discussion

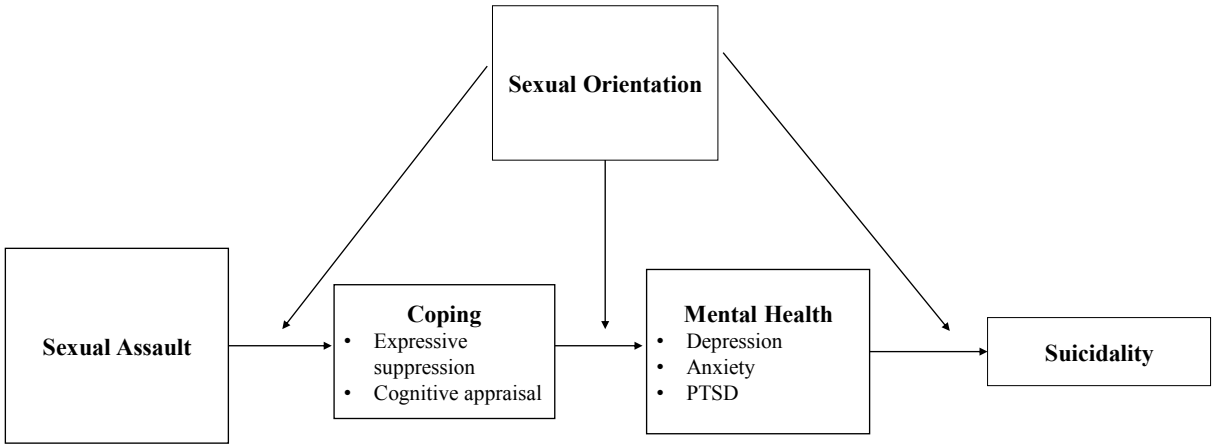
Results show that sexual assault increases suicidality in the presence of a serial mediation through coping and mental health. They also show a stronger association between mental health problems (but not psychological coping strategies) and suicidality among sexual minority persons compared to their heterosexual counterparts. Conclusions are limited by the cross-sectional study design; however, questions queried lifetime sexual assault victimization and current coping, mental health symptoms, and suicidality, supporting the temporal ordering of pathways as proposed. Further, data were derived from self-report and may be susceptible to recall bias and errors, as well as social desirability. Finally, response rates are not known due our reliance on convenience sampling and generalizability should be tested in representative samples.

Public Health Implications

Suicide is one of the 10 leading causes of death across age groups in the United States, with economic lifetime costs exceeding 44 billion dollars each year.[1] A public health approach to suicide prevention that is grounded in the empirical evidence to reduce factors that increase risk and promote factors that increase resilience will have the greatest likelihood of success. Our findings provide empirical evidence supporting a coping-mental health framework for the prevention of suicide among sexual minority and heterosexual victims of sexual assault. Interventions focused on improving coping skills and reducing symptoms of anxiety, depression, and posttraumatic stress disorder may decrease suicidality among victims of sexual assault, particularly for sexual minority persons. Sexual minority persons are at heightened risk of sexual

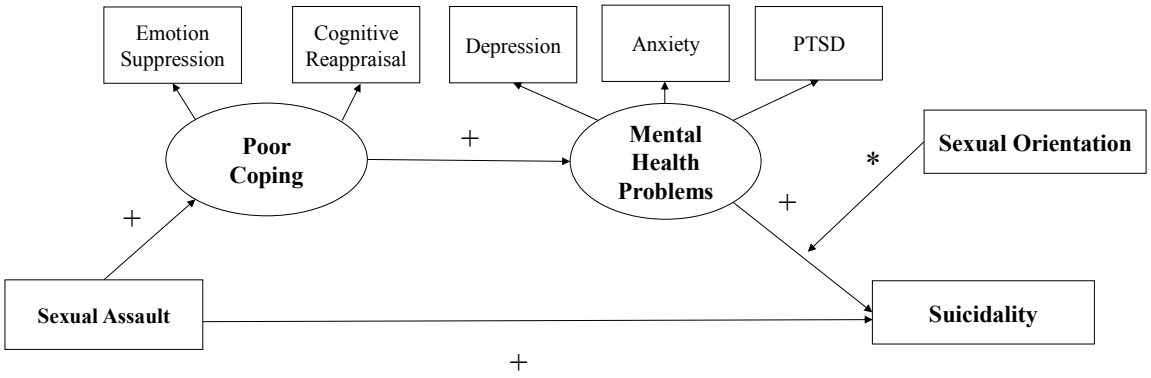
assault, mental health problems, and suicidality. Continued efforts are needed to address health disparities in this population.

Figure II.1. Hypothesized Coping-Mental Health Framework of Sexual Assault and Suicidality



Notes: PTSD = Post-Traumatic Stress Disorder

Figure II.2. Observed Moderated-Mediation Model of Sexual Assault and Suicidality



Notes: PTSD = Post-Traumatic Stress Disorder; + = Significant Positive Pathway; * = Significant Moderation Effect (Pathway stronger for sexual minorities)

CHAPTER FOUR

ARTICLE 3: STUDENT WELL-BEING AND HEALTH SERVICE USE

Introduction

Sexual violence on college campuses is a public health problem that often times, goes unreported. Based on data from the National Crime Victimization Survey (NCVS), females age 18-24 experience higher rates of rape and sexual assault than any other age group (Sinozich & Langton, 2014). Approximately one in five college women experience sexual assault (Krebs et al., 2016) over the course of the academic year. Among undergraduate female students, 23.1% are victims of sexual violence due to physical force, violence or incapacitation (Cantor et al., 2015). Despite the high levels of sexual assault, college women are consistently less likely to utilize collegiate health services post-assault (Stoner & Cramer, 2017). The role of sexual victimization on mental health symptoms has been extensively examined. Victims of sexual violence display enhanced symptoms of depression, anxiety, suicide risk, and PTSD (e.g., Briere & Jordan, 2004; Campbell, Dworkin & Cabral, 2009; Iverson et al., 2012) when compared to the general population. However, there is a lack of literature surrounding the association between mental health symptoms and health service utilization.

The present study examined sexual violence and health service utilization rates on a college campus. In addition, the impact of mental health symptoms on health service utilization was also examined. The present study also examined sexual victimization and mental health from an emotion science framework, which included emotion regulation and NFA. This was a novel way to examine these variables, as much of the prior literature had been conducted without a theoretical framework. Specifically, emotion regulation and NFA were examined as

moderators of the link between sexual victimization and mental health outcomes and overall service use.

Literature Review

Sexual Violence Victimization and Mental Health

The association between SVV and mental health symptomology has been well documented in the literature; overall, SVV results in negative mental health outcomes. Victims of sexual violence commonly report symptoms of post-traumatic stress, depression, anxiety, and in some cases, suicidal ideation (e.g., Briere & Jordan, 2004; Campbell et al., 2009; Iverson et al., 2012). For instance, up to 40% of women with a history of sexual victimization are likely to develop PTSD at some point in their lifetime (Kilpatrick, 2000). Also, 11% of all victims experience PTSD symptoms for years after the assault, making PTSD the most common mental health concern among this population (Kilpatrick, 2000; Campbell et al., 2009). An important caveat to the association of SVV and PTSD is that a formal PTSD diagnosis requires the victimization experience to be subjectively traumatic and continuously re-experienced for at least six months after the trauma (APA, 2013). Female victims of sexual violence are twice as likely to be diagnosed with PTSD as non-victims and college students often experience higher rates of PTSD than non-students. (Chen et al., 2010). A national study examining both the college and general populations found over 50% of college-aged sexual assault victims to have met the criteria for PTSD versus 40% of the general population (Kilpatrick et al., 2007). Further support of PTSD among female college victims comes from Bell's study (2015) examining PTSD among female undergraduate rape victims using the PTSD Checklist for DSM-5 (PCL-5). A significant association between victimization and meeting PTSD diagnostic criteria was observed (Bell, 2015).

Additional mental health symptoms have been associated with SVV. A particular subcategory of symptoms including depression, anxiety, and suicidality may also be of concern for victims of sexual violence. Across sexes, significant relationships have been reported between SVV and depression, anxiety, and suicidality (e.g., Chen et al., 2010; Gilmore et al., 2017; Iverson et al., 2012). More than half of female sexual violence victims meet the diagnostic criteria for depression (Campbell et al., 2009) while approximately 26% of all women develop generalized anxiety post-victimization (Campbell et al., 2009). Further, victims of sexual violence are almost three times as likely to develop depressive symptoms versus non-victims, and over three times as likely to develop an anxiety disorder (Chen et al., 2010). Compared to victims from the general population, rates of depression are even higher among college-age victims. Data from a national study showed that 43% of college-aged victims of forcible rape met the criteria for major depression, while 33% of victims from the general population met the criteria for major depression (Kilpatrick et al., 2007). In further support, Zinzow and colleagues (2011) examined depression and SVV among a national sample of college women and found that victims of sexual violence were nearly three times as likely to experience a major depressive episode when compared to non-victims. Moreover, a review of the literature from the ecological perspective, indicated that up to 44% of all female sexual assault victims experience suicidal thoughts post-assault, and up to 19% actually attempt suicide (Campbell et al., 2009). Among undergraduate students, victims of unwanted sexual experiences are significantly more likely to experience suicidal thoughts post-victimization, compared to non-victims. A 2013 study reported that 46% of college females who had experienced sexual victimization experienced suicidal thoughts, compared to only 14% of non-victims reporting experiencing suicidal thoughts (Bryan, McNaugton-Cassill, Osman & Hernandez, 2013).

While these rates are concerning, there is also evidence of comorbid psychopathology among this population. Results from the National Women's Study-Replicated (Zinzow et al., 2012) revealed that rates of comorbidity between PTSD and major depression were up to five times higher for rape victims compared to non-victims. Further, when post-traumatic stress and suicidal ideation were examined using the same population, PTSD was identified as the moderating variable between rape and suicidal ideation among those who identified as victims of forced and incapacitated rape (Gilmore et al., 2017).

The strong association between sexual victimization and mental health outcomes naturally leads to the exploration of health services for victims and the predictors of utilization. One area that needs further exploration is the role of mental health in service utilization. It has been suggested that individuals reporting symptoms of depression with a prior history of PTSD are more likely to utilize health services post-victimization, yet this has not been consistently supported in the literature (Price, Davidson, Ruggiero, Acierno & Resnick, 2014). Whereas the National Comorbidity Study found a PTSD diagnosis to be unrelated to seeking out services (Ullman & Brecklin, 2002), studies that included multiple psychopathologies often result in significant associations with service utilization (Amstadter, McCauley, Ruggiero, Resnick & Kilpatrick, 2008; Roberts, Gilman, Breslau, Breslau & Koenen, 2011). These inconsistencies point to the need for additional research in this area, especially in light of the dearth of data from college female populations.

The Nature of Alcohol Use

Alcohol use has been examined through a number of lenses, both in the general and college-aged populations. Framed as a risk factor for violence, in a recent study, sexual victimization was linked to a significant increase in alcohol use among a sample of 18 to 25 year

olds (Rhew, Stappenbeck, Bedard-Gilligan, Hughes & Kaysen, 2017). Concerning mental health, among the general population, alcohol use often co-occurs with mental health conditions. SAMHSA's 2014 National Survey on Drug Use and Health suggested that nearly 7.9 million adults were living with a co-occurring disorder. Importantly, the role of alcohol use on health service utilization is still widely unknown, especially among victims of sexual assault. Within a medical framework, alcohol use that becomes severe enough to be given a medical diagnosis is referred to as alcohol use disorder (AUD; APA, 2013). Under the DSM-5 (APA, 2013), AUD is defined as either mild, moderate, or severe based on a number of symptoms present over the past year. In 2015, nearly 5.3 million women, aged 18 and older had AUD (NIH, 2017).

Alcohol use among the college population has been widely examined. Approximately 60% of all college students report drinking in the past month and 2 out of 3 report binge drinking (SAMSHA, 2014), suggesting it may be a behavior typical of emerging adults (Arnett, 2000). Colleges regularly provide targeted education to high-risk students, such as first-year students, athletes and members of Greek life. Colleges are also utilizing screening tools to identify high-risk students. For example, the Alcohol Use Disorder Identification Test (AUDIT) is one of the most wide-used instruments in detecting AUD among college students (Hagman, 2016). However, students with AUD alone are reluctant to seek out services. A recent study suggested that students were more likely to seek out treatment options if they were also experiencing psychological or emotional distress (Capron, Bauer, Madson & Schmidt, 2017), pointing to the need for joint mental health and substance abuse screenings.

Alcohol has also been identified as a negative coping mechanism among the college population. Research has suggested that individuals use alcohol as a coping mechanism for stress and anxiety (Keyes, Hatzenbuehler, Grant & Hasin, 2012; Smith & Randall, 2012). Rates of

stress and anxiety are consistently higher among the college population, suggesting an additional reason for high percentages for drinking among this age group. Further, victims of sexual victimization are unlikely to seek out health services and may turn to alcohol as an additional way to address the victimization.

Emotion Science and the Theoretical Perspective

College student victimization and health service use literature has been largely a-theoretical to date. Three reasons exist to apply emotion-based theory to the present research. First, an individual's mental health can be characterized in part by their emotions. The ability to manage and regulate one's emotions is important not just socially, but also for overall well-being (Houben, Van Den Noortgate & Kuppens, 2015). This becomes increasingly important when individuals are faced with crises, such as trauma (O'Bryan, McLeish, Kraemer & Fleming, 2015). Second, theory can help identify additional facilitators and barriers to health service use. Third, once identified, facilitators and barriers can become theory-informed prevention programs focused on reducing barriers to health service use. Such an approach is consistent with recent public health appeals for improved theory-based public health (Krieger, 2016). This study draws on two emotion science constructs: emotion regulation (Gross, 1998) and need for affect (Maio & Esses, 2001).

Emotion Regulation

The process by which people balance their emotional responses – which emotions they have, when they have them, and how they respond to them – is known as emotion regulation (Gross, 1998). According to Gross and John (2003), a number of emotion regulation strategies can be utilized at any point along the emotion response timeline; some consciously, some automatically. Two types of emotion regulation strategies that have been tested extensively are

cognitive reappraisal and emotion suppression (Gross & John, 2003). Cognitive reappraisal involves changing how a situation is viewed by the person, resulting in a change to the emotional response. This generally occurs early in the emotional response timeline, before a response can be fully developed. As a result, cognitive reappraisal may have an effect on the entire course of emotion (Gross & John, 2003). Emotion suppression involves subduing one's true emotions (Gross, 2010) and occurs much later on the response timeline. As such, suppression may result in unresolved emotions and may create an internal struggle for the individual (Gross & John, 2003). Both of these processes have been successfully assessed on the Emotional Regulation Questionnaire (ERQ) (Gross & John, 2003).

Emotion regulation is grounded in psychology (Gross, 1998) and has long been associated with mental health. A meta-analysis including 51 independent samples, 157 effect sizes, and 21,150 participants explored the relations between cognitive reappraisal and emotion suppression and mental health (defined as life-satisfaction, positive affect, depression, anxiety, and negative affect) (Hu et al., 2014). The study revealed that cognitive reappraisal was significantly and positively related with positive indicators of mental health and negatively related with negative indicators of mental health. In sum, individuals with healthy cognitive reappraisal skills were more likely to report high scores of life satisfaction and lower rates of depression and anxiety. Emotion suppression was negatively related with the positive indicators of mental health and positively related with the negative indicators of mental health. That is to say, individuals who were emotionally suppressed were more likely to experience anxiety and depression, while those who were not reported higher scores of life satisfaction. This is just one example of a number of systematic reviews and meta-analyses that exist around emotion regulation and mental health (e.g., Aldao, Nolen-Hoeksema & Schweiser, 2010; Webb, Miles &

Sheeran, 2012) suggesting a wealth of data in this field. What remains missing from the literature is the association between emotion regulation and SVV. The literature that does exist has focused on very specific subsets of the population (i.e., inmates) and generally focuses on victims of child sexual abuse (Messman-Moore, Ward & Zerubavel, 2013; Walsh, DiLillo & Scalora, 2011). Building on the available emotion regulation literature and the understanding that regulation strategies can serve as protective factors against negative mental health outcomes or place an individual more at risk (Gross, 2010), it will be beneficial to explore emotion regulation as a moderating variable in the SVV-mental health relationship.

Need for Affect

The second component of the emotion science perspective is the need for affect (NFA). NFA has been described as an individual's tendency to approach or avoid emotional situations (Maio & Esses, 2001). NFA has two main principles. First, the perspective adopts the thought that individuals will encounter a variety of experiences, which will differ from person to person in their intensity, quality, stability, specificity, and clarity (Maio & Esses, 2001). Secondly, NFA encompasses both an emotional avoidance and an emotional approach element (Maio & Esses, 2001). NFA approach is the desire to experience and understand emotions while NFA avoidance is the active avoidance of an emotional situation (Maio & Esses, 2001). A main way to differentiate between NFA approach and avoidance is to examine the individual differences in affect and cognitive style. For example, ambivalence over emotional expressiveness was significantly related to NFA avoidance but not NFA approach. Further, need for closure was significantly related to NFA approach but not NFA avoidance (Maio & Esses, 2011). Both emotional avoidance and emotional approach are examined in the Need for Affect Questionnaire-Short Form (NAQ-S; Appel et al., 2012). In the original development of the NFA

measure, a clear pattern of emotional avoidance (i.e., low NFA) and higher alexithymia (i.e., inability to describe emotion) was observed (Maio & Esses, 2001). This finding suggests that individuals may choose to avoid emotional situations if they cannot adequately communicate what they are feeling. Cramer and colleagues (2016) applied NFA to a college population to better understand suicide risk and noted a positive association between emotional avoidance and suicide risk. In other words, those who avoided their emotions were at higher risk for suicidal thoughts and higher estimated future attempts (Cramer et al., 2016). This NFA-suicide risk pattern was replicated in a three-sample study of general adults, college students, and sexual minority persons (Cramer et al., 2017); also, elevated NFA approach was associated with greater suicide risk. Authors explicate this pattern by speculating that zones of suicide risk may exist at extremes of NFA. Although these results are important within the mental health field, they are also important in the larger context of victimization and health services utilization, two fields that have not been explored through NFA. It is known that victimization is associated with mental health outcomes. However, whether or not victims are able to accept or acknowledge those emotions raises the larger question of the role of NFA as a moderating variable impacting service use.

Aims and Purpose

The overarching purpose of this dissertation was to examine sexual violence victimization, mental health and health service utilization among college females using an emotion science framework. The following were specifically examined: rates of sexual victimization and health service utilization, mental health symptoms and the impact on health service use and willingness to use services, and rates of actual and willingness to use health services.

Hypotheses

Hypothesis 1. Accounting for the influence of demographic covariates and main effects of individual differences in emotionality (i.e., NFA and emotion regulation), college women who are victims of sexual violence will experience more severe mental health symptoms than non-victims. Mental health symptoms include anxiety, depression, post-traumatic stress, stress, and suicide risk.

Hypothesis 2a. Accounting for the influence of demographic covariates and main effects of victimization, higher scores on cognitive reappraisal will be associated with less severe mental health symptoms.

Hypothesis 2b. Accounting for the influence of demographic covariates and main effects of victimization, higher scores of emotion suppression will be associated with more severe mental health symptoms.

Hypothesis 3. Emotion regulation skills will moderate the association between victimization and mental health symptoms (i.e., H1). Specifically, cognitive reappraisal will influence the association between victimization and mental health symptoms such that the slope of the cognitive appraisal-mental health association will be more negative for victims compared to non-victims. Also, emotion suppression will influence the association between victimization and mental health symptoms such that the slope of the emotion suppression-mental health association will be more positive for victims compared to non-victims.

Hypothesis 4. Need For Affect will moderate the association between victimization and mental health symptoms (i.e., H1). There is not enough literature to postulate a directional hypothesis for approach or avoidance. NFA will be examined in an exploratory manner for additional main and moderating effects concerning mental health.

Hypothesis 5. Victims of sexual violence will report less service use (i.e., willingness to and actual use) compared to non-victims (services include, but are not limited to, student health centers, women's resource centers, and counseling centers). This is expected in part because victims are more inclined to disclose sexual victimization experiences to informal sources (i.e., friends, family) (e.g., Fisher et al., 2003, Littleton, 2010).

Hypothesis 6. Participants with more severe mental health symptoms will report more service use.

Hypothesis 7. Emotion regulation skills will moderate the association between victimization and service use (i.e., H6). Specifically, cognitive reappraisal will influence the association between victimization and health service use such that, as cognitive reappraisal increases, the slope of the victimization-health service use increases. In other words, as cognitive reappraisal increases, the strength of the victimization-health service use association strengthens. There is insufficient literature to postulate a directional hypothesis for emotional suppression, therefore it will be examined in an exploratory manner.

Hypothesis 8. Need For Affect will moderate the association between victimization and service use (i.e., H6). There is not enough literature to postulate a directional hypothesis for approach or avoidance. NFA will be examined in an exploratory manner for additional main and moderating effects concerning service use.

Methods

Participants

Participants included female undergraduate students enrolled at a medium-sized, public, university in the southeast. In order to participate, individuals needed to be at least 18 years of age. Approximately 10,800 female students were enrolled as full-time undergraduate students at

Old Dominion University (ODU) in the semester of Fall 2017. A total of 454 female students participated in the study. Table III.1 provides descriptive statistics for all demographic variables. Overall, the mean age of this sample was approximately 24 years old. The majority of the sample was White and of non-Hispanic origin. Most individuals lived off campus. While the majority of students identified as heterosexual, of note is the sizeable percentage of those who identified as sexual orientation minority. A percentage of individuals reported a disability; the majority reporting difficulty seeing, ADD or ADHD and psychological or psychiatric conditions. A small subsample reported active or military veteran status. Very few individuals reported being involved in Greek life. Victims of sexual violence reported the victimization episode to the following person(s) in descending order of frequency: friend, spouse/significant other, family member, health service provider, roommate, law enforcement and religious or spiritual faith leader. Reported health service use in descending order of frequency was: ODU Health Services, off campus services, ODU Counseling Center, and ODU Women's Center.

Table III.1.

Participant Demographic Information (*N* = 454)

Variable	Frequency (%)*	Mean (*SD*)
Age	-	23.79 (7.15)
Race		
White	243 (53.5%)	-
Black	115 (25.3%)	-
American Indian or Alaskan Native	1 (0.2%)	-
Asian	21 (4.6%)	-
Native Hawaiian or Pacific Islander	1 (0.2%)	-
Chinese	2 (0.4%)	-
Filipino	2 (0.4%)	-
Vietnamese	1 (0.2%)	-
Race 'Other' (e.g., Multi-racial)	68 (15.0%)	-
Ethnicity		
No, not of Hispanic origin	406 (89.4%)	-
Yes, Mexican, Mexican American or Chicano	18 (4.0%)	-
Yes, Puerto Rican	10 (2.2%)	-
Yes, Cuban	1 (0.2%)	-
Yes, another Hispanic, Latino or Spanish origin	19 (4.2%)	-
Year in School		
Freshman	91 (20.0%)	-
Sophomore	64 (14.1%)	-
Junior	93 (20.5%)	-
Senior	117 (25.8%)	-
Graduate Student	81 (17.8%)	-
Other	8 (1.8%)	-
Lives on Campus		
Yes	127 (28.0%)	-
No	327 (72.0%)	-

Table III.1. Continued

Variable	Frequency (%)*	Mean (*SD*)
Off Campus Students: Lives within Hampton Roads (*N* = 327)*		
Yes	289 (88.4%)	-
No	38 (11.6%)	-
Off Campus Students: Distance Student (N= 327)*		
Yes	67 (20.5%)	-
No	260 (79.5%)	-
Sexual Orientation		
Heterosexual	364 (80.2%)	-
Lesbian	7 (1.5%)	-
Gay	1 (0.2%)	-
Bisexual	42 (9.3%)	-
Asexual	5 (1.1%)	-
Questioning	11 (2.4%)	-
I prefer no label	17 (3.7%)	-
Other	7 (1.5%)	-
Disability		
Hearing	6 (1.3%)	-
Seeing	64 (14.1%)	-
TBI	2 (0.4%)	-
ADHD	44 (9.7%)	-
Health Impairment, including chronic conditions	25 (5.5%)	-
Difficulty speaking or language impairment	2 (0.4%)	-
Mobility limitation or orthopedic impairment	4 (0.9%)	-
Specific learning disability	3 (0.7%)	-
Psychological or psychiatric condition	43 (9.5%)	-
Other Disability	2 (0.4%)	-
Multiple Disabilities	41 (9.0%)	
None	218 (48%)	

Table III.1. Continued

Variable	Frequency (%)*	Mean (*SD*)
Military Status		
Active Duty	3 (0.7%)	-
Reserves	6 (1.3%)	-
National Guard	1 (0.2%)	-
Veteran or Retiree	11 (2.4%)	-
Civilian – no military service	433 (95.4%)	-
Greek Life		
Yes	42 (9.3%)	-
No	402 (88.5%)	-
Pledging	10 (2.2%)	-
SES Disclosure**		
Friend	144 (31.7%)	-
Family Member	46 (10.1%)	-
Roommate	24 (5.3%)	-
Spouse/Significant Other	80 (17.6%)	-
Law Enforcement	13 (2.9%)	-
Health Service Provider	30 (6.6%)	-
Religious/Spiritual Faith Leader	7 (1.5%)	-
Health Services Utilization**		
ODU Counseling Center	59 (13.0%)	-
ODU Health Services	122 (26.9%)	-
ODU Women's Center	31 (6.8%)	-
Off Campus Health Services	84 (18.5%)	-

Notes: TBI = Traumatic Brain Injury, ADHD = Attention-Deficit/Hyperactivity Disorder, SES = Sexual Experiences Survey, ODU = Old Dominion University; * = Percentage calculation is from total sample (N = 454) unless otherwise denoted; **SES Disclosure and health service use variable percentages total other than 100% because a respondent could check none or more than one disclosure

Procedure

The plan for this study was approved by the dissertation committee and ODU's Institutional Review Board in summer 2017 (see Appendix A). The overall design was an anonymous cross-sectional, retrospective, online survey study to avoid collecting any personally identifying information (i.e., name, zip code, social security number or student ID number). As is common practice in web-based survey data collection addressing mental health topics (e.g., Hill & Petit, 2012; Van Spijker, et al. 2014), all participants were provided with contact information for on campus mental health resources (i.e., Counseling Center, Women's Center) and community resources (i.e., APA psychologist locator and 1-800-273-Talk) for use in any instance that participants became uncomfortable during the survey. Electronic consent was provided to participants before the survey and debriefing procedures were provided to the participants after the survey. The consent form (see Appendix B) contained the study purpose, rights as a research participant, anticipated benefits and risks of study and IRB and investigator contact information. Clicking through the consent form indicated consent to participate. The debrief form (see Appendix C) included the study purpose, IRB and investigator contact information and contact information for college and community health services.

Data collection took place between September and December 2017 and was conducted primarily through university-wide announcements. An announcement (see Appendix D) with a link to the survey was posted daily and was automatically sent out as part of the university announcements email under the academics heading. This approach was consistent with ODU ITS guidelines for posting announcements (https://www.odu.edu/announcements/student). Secondarily, convenience sampling was employed with classes in the Community Health Professions courses at ODU. With instructor approval, these courses were approached and

offered extra course credit to students who completed the survey. The instructor of record shared an announcement (see Appendix E) with the survey link to all students enrolled in each course. Once the participant completed all the survey measures, they were redirected to a separate survey where they were prompted to enter their email address. Participants who were recruited through University-wide announcements had the option to be entered into a drawing for one of thirty $25.00 Amazon gift cards for their participation. A random number generator was used to determine who received the gift cards and winners were notified via email. Once the gift cards were distributed, all participant emails were deleted. Such practices are deemed common and appropriate compensation for participant effort (Goritz, 2010). Students recruited through Community Health Professions courses were directed to a separate survey where they were prompted to enter their email address and course number in order to receive extra course credit. Once data collection closed, the researcher assembled the list of all participants and sent it to the instructor of record who provided the extra credit. Students who did not wish to complete the survey for extra credit were given an alternate option to complete a CDC Learning Connection Course. Students who opted for this opportunity sent the researcher a copy of the completed certified and the researcher sent a collated list of all participants to the instructor of record. In both circumstances, the two surveys were not linked and only the researcher had access to the information. The study was supported by a recent research grant awarded to the PI by the American Psychology-Law Society (American Psychological Association Division 41).

Measures

The data collection tool (see Appendix F) combined a demographic questionnaire and a questionnaire about actual use and willingness to use health services, with seven other instruments. These assessments included the Daily Drinking Questionnaire (DDQ; Collins, Parks

& Marlatt, 1985) Depression Anxiety Stress Scales – 21 (DASS-21; Osman et al., 2012), the PTSD Checklist for DSM-5 (PCL-5; Weathers et al., 2013), the Suicide Behaviors Questionnaire-Revised (SBQ-R: Osman et al., 2001), the Sexual Experiences Survey – Short Form Victimization (SES-SFV; Koss et al., 2007), the Emotion Regulation Questionnaire (Gross & John, 2003), and the Need for Affect Questionnaire – Short Form (NAQ-S; Appel, Gnambs & Maio, 2012).

Demographic Questionnaire. A brief demographic measure included the following variables: age, gender, race/ethnicity, year in school, student status, sexual orientation, military status, etc.

DDQ. The DDQ (Collins et al., 1985) measured the volume, quantity, and frequency of alcohol consumption through four descriptive statements. For the purposes of this study, only quantity of alcohol consumed was examined. Subjects were also asked to estimate average alcohol consumption over the past week, although quantity was measured for both the past week and for the past three months. The DDQ has acceptable internal consistency ($\alpha = .71$; Foster et al., 2015).

DASS-21. Depression, anxiety, and stress were measured through DASS-21 (Osman et al., 2012). The DASS-21 is designed to measure the presence and severity of a range of symptoms over the prior week through 21 self-report items. Each item is scored from 0 (*does not apply to me at all over the past week*) to 3 (*applied to me very much* or *most of the time over the past week*) and each scale (depression/anxiety/stress) is scored separately. The DASS-21 has acceptable reliability scores on all three scales; .88 for depression, .82 for anxiety, and .90 for stress in a non-clinical sample (Henry & Crawford, 2005).

PCL-5. Post-traumatic stress symptoms were measured through the PCL-5 (Weathers et al., 2013). The PCL-5 consists of 20 items that evaluates the 20 diagnostic symptoms of PTSD as outlined by the DSM-5 (APA, 2013). Respondents indicated how much they had been bothered by a symptom over the past month using a 5-point Likert type scale, where 0 means *Not at All* and 4 means *Extremely*. In a group of undergraduate students, the PCL-5 demonstrated strong retest reliability (r= .82) and internal consistency (α = .94) (Belvins, Weathers, Davis, Witte & Domino, 2015).

SBQ-R. Suicide risk was measured through SBQ-R (Osman et al., 2001). The SBQ-R is a four-item measure where each question addresses a specific dimension of suicidality. Each item has a specific scoring structure and the scale has a total score between 3 and 18. In the undergraduate population, the SBQ-R has a demonstrated acceptable internal reliability score of .76 (Osman et al., 2001).

SES-SFV. This measure assessed unwanted victimization experiences and aimed to estimate the frequency of each type of unwanted sexual act both since the age of 14 and over the past 12 months. For the purpose of this research, only victimization over the past 12 months was examined. The SES-SFV included seven scenarios in which the respondent selected the way in which the victimization occurred. The respondent also selected the number of times each victimization occurred (0, 1, 2, 3+). Two out of the seven items apply to female respondents only. Dichotomized use of the SES-SFV has been widely used in college student victimization research (Stoner & Cramer, 2017), and has acceptable psychometric properties (Koss et al., 2007). A dichotomized version of the SES-SFV was used in this study to remain consistent with the literature and to account for severe skewness in continuous variables.

Emotion Regulation Questionnaire. The ERQ (Gross & John, 2003), is comprised of ten items designed to measure respondents' tendency to regulate their emotions in two ways: cognitive reappraisal (six items) and emotion suppression (4 items). Respondents answered each item on a 7 point Likert type scale where 1 means *Strongly Disagree* and 7 means *Strongly Agree*. Scoring was done by summing items on the respective subscale. The ERQ has demonstrated acceptable internal consistency among undergraduate populations; internal consistency of .79 for reappraisal and .73 for suppression (Gross & John, 2003).

NAQ-S. The NAQ-S (Appel, Gnambs & Maio, 2012) consists of ten items, broken into two subscales: emotional avoidance and emotional approach. Respondents answered each item on a 7-point Likert scale where -3 means *Strongly Disagree* and +3 means *Strongly Agree*. Total subscale scores are determined by summing items on each domain. The NAQ-S has internal consistency values acceptable for both subscales (range .71 to .82; Appel et al., 2012).

Health Services Utilization. Actual use and willingness to use university-based and off campus health services was assessed using a list developed in consultation with the Executive Director of the ODU Counseling Center. The list includes ODU Counseling Center, ODU Health Services, ODU Women's Center, off campus health services and none. To assess the actual use of health services, participants were asked to select any of the services they utilized. An open-ended question was also included asking participants for a brief explanation for using the service(s). Willingness to use health services was assessed using a 7-point Likert-type scale where 1 means *Very Unwilling* and 7 means *Very Willing*. An open-ended question was also included asking participants for a brief explanation for the extent of their willingness to use the service(s).

Results

Sample characteristics and data management

Boxplots were run for the following variables: depression, anxiety, stress, PTSD, suicide risk, total weekly drinks, emotion regulation and need for affect. Outliers were identified for the mental health variables, however, none exceeded concerning variation from the mean. For total weekly drinks, three outliers were identified for elimination.

The amount of missing data for any demographic variable or measure item ranged from 0% to 9.6%. Multiple imputation was used to handle missing data, allowing for replacement of entire missing scales (e.g., if participant was missing all items on the NFA scale) in order to maximize usage of the full sample for hypothesis testing. The following parameters were set for the imputation: (1) a total of 20 imputation datasets, and (2) the following variables entered into the procedure (i.e., all variables of interest to hypothesis testing): all DDQ items, all PCL-5 items, all DASS-21 items, all SES-SFV items, all ERQ items, all NAQ-S items and the health services actual and willingness to use items. Table III.2 provides descriptive statistics and internal consistency for variables of theoretical interest.

Three steps were taken to prepare the data for hypothesis testing. First, due to a moderate-to-large positive skew, the DDQ total weekly drinks measure was transformed in accordance with Tabachnick and Fidell (2007) and Howell's (2007) guidelines for using a Log10 method plus a constant. This method was appropriate since the DDQ had a substantial positive skew (see Table III.2). Additionally, a constant was added so the minimum value of weekly drinks equaled one. Once the transformation was applied, the DDQ total weekly drinks measure had a new skewness of 1.15 (0.03) and kurtosis of 2.17 (0.05). Both of these are within the acceptable ranges. Second, the SES-SFV victimization variables were dichotomized (i.e., 0 = no, 1 = yes

victim) to be consistent with the manner in which the SES is commonly used in the literature (e.g. Breitenbecher & Scarce, 2001; Gidycz & Koss, 1990).

Overall, the sample consumed just over three alcoholic beverages per week. The sample also met scoring criteria for severe depression, extremely severe anxiety and severe levels of stress (Antony, Bieling, Cox, Enns & Swinson, 1998). The sample displayed elevated risk for symptoms of PTSD (Belvins, Weathers, Davis, Witte & Domino 2015). Of particular note was the average score on the SBQ-R, which reflected a risk of suicide just under clinical significance indicating elevated suicide risk (Osman et al., 2001). With regards to emotion regulation, the sample averages were near approximate scale midpoints for both cognitive reappraisal and emotion suppression (Gross & John, 2003). Similarly, the sample means for NAQ-S subscales were at the approximate midpoint for Avoidance and notably above the scale midpoint for Approach (Appel et al., 2012). Results from the questions concerning willingness to use health services suggests that participants were, on average, willing to use services should the need arise. Of note are the skew and kurtosis variables for the DDQ, both of which were significantly outside of the normal range. Internal consistency was acceptable for all non-behavioral variables.

Table III.2.

Descriptive Statistics and Internal Consistency for Theoretical Variables of Interest

Variable	Mean (*SD*)	Skewness (*SE*)	Kurtosis (*SE*)	α
DDQ				
Total Weekly Drinks	3.38 (5.21)	3.17 (0.03)	18.45 (0.05)	-
DASS-21				
Depression	11.75 (5.24)	1.25 (0.03)	0.76 (0.05)	.92
Anxiety	10.92 (4.24)	1.14 (0.03)	0.52 (0.05)	.83
Stress	13.16 (5.05)	0.72 (0.03)	-0.31 (0.05)	.86
PCL-5				
Total Score	40.18 (18.88)	0.87 (0.03)	-0.31 (0.05)	.96
Intrusive	9.89 (5.23)	1.01 (0.03)	0.12 (0.05)	.90
Avoidance	4.34 (2.51)	0.87 (0.03)	-0.43 (0.05)	.87
Cognition	14.09 (7.41)	0.99 (0.03)	-0.10 (0.05)	.92
Arousal	11.87 (5.63)	0.94 (0.03)	0.08 (0.05)	.85
SBQR				
Total Score	6.70 (3.22)	1.21 (0.03)	0.66 (0.05)	.84
SES-SFV				
Unwanted Touching	0.18 (0.39)	1.65 (0.03)	0.73 (0.05)	.74
Actual Oral Sex	0.13 (0.34)	2.19 (0.03)	2.78 (0.05)	.81
Actual Vaginal Sex	0.57 (0.23)	3.81 (0.03)	12.53 (0.05)	.77
Actual Anal Sex	0.02 (0.14)	6.89 (0.03)	45.49 (0.05)	.83
Attempted Oral Sex	0.06 (0.24)	3.73 (0.03)	11.89 (0.05)	.78
Attempted Vaginal Sex	0.46 (0.21)	4.21 (0.03)	15.70 (0.05)	.89
Attempted Anal Sex	0.02 0.15)	6.19 (0.03)	36.32 (0.05)	.92
ERQ				
Reappraisal	28.71 (7.98)	-0.36 (0.03)	-0.11 (0.05)	.88
Suppression	14.06 (5.22)	0.03 (0.03)	-0.39 (0.05)	.74
NAQ-S				
Approach	7.11 (7.67)	1.06 (0.03)	2.77 (0.05)	.72
Avoidance	-0.27 (9.46)	0.85 (0.03)	1.15 (0.05)	.84

Table III.2. Continued

Variable	Mean (*SD*)	Skewness (*SE*)	Kurtosis (*SE*)	α
Willingness to Use Health Services				
ODU Counseling Center	4.91 (1.94)	-0.50 (0.03)	-0.52 (0.05)	-
ODU Health Services	5.26 (1.90)	-0.76 (0.03)	0.11(0.05)	-
ODU Women's Center	4.91 (1.92)	-0.57 (0.03)	-0.29 (0.05)	-
Off Campus Services	5.02 (1.94)	-0.65 (0.03)	-0.37 (0.05)	-

Notes: DDQ = Daily Drinking Questionnaire; Total Weekly Drinks = average number of drinks consumed in one week. DAAS-21 = Depression Anxiety Stress Scales-21; Depression = DASS-21 depressive symptoms subscale, Anxiety = DASS-21 anxiety symptoms subscale, Stress = DASS-21 stress symptoms subscale. PCL-5 = PTSD Disorder Checklist for DSM5; Intrusive = Intrusive Recollection Symptoms subscale, Avoidance = Avoidance Symptoms subscale, Cognition = Negative Alterations in Cognition and Mood subscale, Arousal = Marked Alterations in Arousal and Reactivity subscale. SBQR = Suicide Behaviors Questionnaire-Revised. SES-SFV = Sexual Experiences Survey – Short Form Version; ERQ = Emotion Regulation Questionnaire; Reappraisal = Cognitive Reappraisal subscale, Suppression = Expressive Suppression subscale. NAQ-S = Need for Affect Questionnaire. Health Service Use – Willingness = Willingness to utilize health services; ODU = Old Dominion University.

Preliminary analyses: Identification of control variables[1]

Mental health models

Preliminary analyses were performed to determine whether demographic variables were related to mental health outcome measures (i.e., total weekly drinks, depression, anxiety, stress, PTSD, and suicide risk). In advance, race, ethnicity, sexual orientation, military service, and Greek life were recoded due to low cell counts in many subcategories within each variable. For race, individuals who identified as Asian, Native Hawaiian, Chinese, Filipino or Vietnamese were recoded into an "Asian/Pacific Islander" group. Further, those individuals who identified as American Indian or Alaskan Native, Multiracial, or Other, were recoded into an "Other" group. For ethnicity, individuals who reported Mexican, Mexican American, Chicano, Puerto Rican, Cuban or another Hispanic, Latino or Spanish heritage were recoded into a group for Hispanic origin. For sexual orientation, individuals reporting Lesbian/Gay, Asexual, Questioning, Prefer No Label, and Other were recoded into an "Other" group. For military service, Active Duty, Reserves, National Guard and Veteran/Retiree were recoded into a "Military Service" group. For Greek Life, individuals who identified as either active or pledging members of a fraternity or sorority were recoded into a "Greek Life".

Pearson correlations were then computed between age and the mental health outcome variables to identify possible covariates. Next, between groups tests (i.e. independent samples *t*-tests, one-way analysis of variance) were run for categorical demographics (i.e., race, ethnicity, year in school, campus housing, sexual orientation, visual impairment, self-reported ADD/ADHD diagnosis, self-reported chronic health condition, self-reported psychiatric/psychological condition, military service and Greek life) and mental health outcome

[1] Only significant effects reported here; statistical tests for non-significant effects available upon request

measures. Bonferroni post-hoc tests were used for ANOVAs. In order to retain a demographic as a control variable the demographic must be significantly associated with more than half of the outcomes.

Age demonstrated non-significant associations with mental health measures. The following demographics demonstrated significant associations: race, ethnicity, year in school, campus housing, sexual orientation, visual impairment, a self-reported ADD/ADHD diagnosis, a self-reported chronic health condition, a self-reported psychiatric/psychological condition, military service and Greek Life.

Race was significantly associated with total weekly drinks ($F[3, 9527] = 31.42$, $p < .001$), depression ($F[3, 9533] = 76.11$, $p < .001$), anxiety ($F[3, 9533] = 58.35$, $p < .001$), stress ($F[3, 9533] = 67.01$, $p < .001$), PTSD ($F[3, 9533] = 58.89$, $p < .001$), and suicide risk ($F[3, 9533] = 114.59$, $p < .001$). With regard to total weekly drinks, White students ($M = 3.83$, $SD = 5.82$) reported significantly higher weekly drinking totals than African American ($M = 2.63$, $SD = 3.81$), Asian ($M = 2.87$, $SD = 4.08$), and Other racial minority ($M = 3.30$, $SD = 5.29$) students (all ps $< .01$); moreover, Other racial minority students reported significantly higher weekly drinking totals than African American students ($p < .001$). Regarding depression, Other racial minority students ($M = 12.80$, $SD = 6.01$) reported significantly more depression than White ($M = 12.09$, $SD = 5.22$), African American ($M = 10.63$, $SD = 4.79$), and Asian ($M = 10.60$, $SD = 3.72$) students (all ps $< .001$); moreover, White students reported significantly more depression than African American and Asian students (all ps $< .001$). Regarding anxiety, White students ($M = 11.24$, $SD = 4.25$) reported significantly more anxiety than African American ($M = 9.97$, $SD = 3.78$, $p < .001$) and Asian students ($M = 10.70$, $SD = 3.91$, $p < .05$). Other racial minority students ($M = 11.42$, $SD = 4.70$) also reported significantly more anxiety than African American

and Asian students (all *p*s < .01), while African American students reported being significantly less anxious than all other groups (all *p*s < .01). Regarding stress, White students (*M* = 13.66, *SD* = 4.95) reported significantly more stress than African American (*M* = 11.98, *SD* = 4.93) and Asian students (*M* = 12.60, *SD* = 5.40) (all *p*s < .001). Other racial minority students (*M* = 13.57, *SD* = 5.12) also reported significantly more stress than African American and Asian students (all *p*s < .001). Regarding PTSD, Other racial minority students (*M* = 43.61, *SD* = 19.29) reported significantly more PTSD than White (*M* = 41.09, *SD* = 19.54), African American (*M* = 37.46, *SD* = 17.30), and Asian students (*M* = 34.11, *SD* = 14.98) (all *p*s < .001), while Asian students reported significantly less PTSD than all other groups (all *p*s < .01). White students reported significantly more PTSD than African American students (*p* < .001). Finally, regarding suicide risk, Other racial minority students (*M* = 7.82, *SD* = 3.35) reported a significantly higher suicide risk compared to White (*M* = 6.71, *SD* = 3.25), African American (*M* = 6.21, *SD* = 3.14), and Asian students (*M* = 5.48, *SD* = 1.55) (all *p*s < .001). White students reported a significantly higher suicide risk compared to African American and Asian students (all *p*s < .001); moreover, Asian students reported a significantly lower suicide risk compared to all other groups (all *p*s < .001).

Ethnicity was significantly related to total weekly drinks (t[9526] = -1.98, *p* = .048), anxiety (t[9532] = 1.98, *p* = .048), PTSD (t[9532] = 2.14, *p* < .05), and suicide risk (t[9532] = 2.26, *p* < .05). Hispanic students (*M* = 3.69, *SD* = 5.32) reported significantly higher weekly drinking totals than non-Hispanic students (*M* = 3.34, *SD* = 5.20). Non-Hispanic students (*M* = 10.95, *SD* = 4.25) reported significantly more anxiety than Hispanic students (*M* = 10.67, *SD* = 4.14). Non-Hispanic students (*M* = 40.33, *SD* = 18.84) reported significantly more PTSD than

Hispanic students (M = 38.98, SD = 19.20). Non-Hispanic students (M = 6.72, SD = 3.28) reported a significantly higher suicide risk than Hispanic students (M = 6.48, SD = 2.72).

Year in School was significantly associated with total weekly drinks (F[5, 9527] = 61.20, $p < .001$), depression (F[5, 9533] = 40.45, $p < .001$), anxiety (F[5, 9533] = 74.13, $p < .001$), stress (F[5, 9533] = 48.81, $p < .001$), PTSD (F[5, 9533] = 41.84, $p < .001$), and suicide risk (F[5, 9533] = 68.40, $p < .001$). With regard to total weekly drinks, Sophomores (M = 4.64, SD = 8.07) reported significantly higher weekly drinking totals than Freshman (M = 1.85, SD = 4.07), Juniors (M = 2.99, SD = 4.66), Seniors (M = 3.78, SD = 4.42), Grad Students (M = 4.04, SD = 4.74) and Others (M = 2.75, SD = 4.48) (all ps < .001). Freshman reported significantly less weekly drinking totals than Sophomores, Juniors, Seniors and Grad Students (all ps < .001). Seniors and Graduate students reported significantly higher weekly drinking totals than Juniors (all ps < .001). Regarding depression, Graduate students (M = 10.21, SD = 3.88) reported significantly less depression than Freshman (M = 12.12, SD = 5.44), Sophomores (M = 12.61, SD = 6.32), Juniors (M = 11.91, SD = 4.96), Seniors (M = 11.88, SD = 5.24) and Others (M = 12.38, SD = 5.85) (all ps < .001). Sophomores reported significantly more depression than Juniors, Seniors and Graduate Students (all ps < .01). Regarding anxiety, Graduate students (M = 9.28, SD = 3.00) also reported significantly less anxiety than Freshman (M = 11.41, SD = 4.05), Sophomores (M = 11.20, SD = 5.13), Juniors (M = 11.71, SD = 4.73), Seniors (M = 10.83, SD = 3.87) and Others (M = 11.50, SD = 3.58) (all ps < .001). Juniors reported significantly more anxiety than Sophomore, Seniors and Graduate students (all ps < .01). Freshman reported significantly more anxiety than Seniors ($p < .001$). Regarding stress, Graduate students (M = 11.55, SD = 3.95) reported significantly less stress than Freshman (M = 13.11, SD = 4.88), Sophomores (M = 13.28, SD = 6.02), Juniors (M = 13.75, SD = 4.94), Seniors (M = 13.79, SD =

5.22) and Others (M = 12.75, SD = 3.54) (ps range from < .001 to < .05). Seniors reported significantly more stress than Freshman, Sophomores and Graduate Students (all ps < .05). Freshman reported significantly less stress than Juniors and Seniors (all ps < .05). Regarding PTSD, Graduate students (M = 34.69, SD = 15.40) reported significantly less PTSD than Freshman (M = 39.56, SD = 18.34), Sophomores (M = 42.89, SD = 22.83), Juniors (M = 41.24, SD = 18.48), Seniors (M = 41.99, SD = 18.66) and Others (M = 42.50, SD = 18.61) (all ps < .001). Freshman reported significantly less PTSD than Sophomores and Seniors (all ps < .001). Regarding suicide risk, Graduate students (M = 6.06, SD = 2.82) reported a significantly lower suicide risk compared to Freshman (M = 7.51, SD = 3.36), Sophomores (M = 6.58, SD = 3.31), Juniors (M = 6.45, SD = 2.89), Seniors (M = 6.57, SD = 3.29) and Others (M = 9.50, SD = 4.26) (ps < .001 to < .05) while Other students reported a significantly higher suicide risk compared to all other groups (all ps < .001). Freshman reported a significantly higher suicide risk compared to Sophomores, Juniors and Seniors (all ps < .001).

Campus Housing was significantly related to total weekly drinks (t[9526] = -2.71, p < .01), stress (t[9532] = -10.67, p < .001), PTSD (t[9532] = -4.36, p < .001), and suicide risk (t[9532] = 4.56, p < .001). Students living off-campus (M = 3.47, SD = 4.39) reported significantly higher weekly drinking totals than students living on-campus (M = 3.14, SD = 4.39). Students living off-campus (M = 13.50, SD = 5.07) reported significantly more stress than students living on-campus students (M = 12.28, SD = 4.90). Students living off-campus (M = 40.71, SD = 18.95) reported significantly more PTSD than students living on-campus (M = 38.83, SD = 18.63). Students living on-campus (M = 6.94, SD = 3.47) reported a significantly higher suicide risk than students living off-campus (M = 6.60, SD = 3.11).

Sexual orientation was significantly related to total weekly drinks (F[2, 9527] = 3.45,

$p < .05$), depression (F[2, 9533] = 422.58, $p < .001$), anxiety (F[2, 9533] = 311.22, $p < .001$), stress (F[2, 9533] = 360.33, $p < .001$), PTSD (F[2, 9533] = 243.95, $p < .001$), and suicide risk (F[2, 9533] = 641.58, $p < .001$). With regard to total weekly drinks, heterosexual students (M = 3.42, SD = 5.13) reported significantly higher weekly drinking totals than Other sexual minority students (M = 3.38, SD = 5.21) ($p < .05$). Regarding depression, bisexual students (M = 15.10, SD = 6.21) reported significantly more depression than heterosexual students (M = 11.00, SD = 4.70) and other sexual minority students (M = 14.44, SD = 6.12) (ps ranged from < .001 to = .01), while heterosexual students reported significantly less depression than Other sexual minority students ($p < .001$). Regarding anxiety, bisexual students (M = 14.00, SD = 4.68) reported significantly more anxiety than heterosexual students (M = 10.46, SD = 4.09) and other sexual minority students (M = 11.65, SD = 3.68) (all ps < .001), while heterosexual students reported significantly less anxiety than other sexual minority students ($p < .001$). Regarding stress, heterosexual students (M = 12.49, SD = 4.77) reported significantly less stress than bisexual students (M = 16.07, SD = 5.51) and other sexual minority students (M = 15.65, SD = 5.08) ($p < .001$). Regarding PTSD, bisexual students (M = 51.07, SD = 21.29) reported significantly more PTSD than heterosexual students (M = 38.20, SD = 17.88) and other sexual minority students (M = 45.71, SD = 19.70) (all ps < .001), while heterosexual students reported significantly less PTSD than other sexual minority students ($p < .001$). Regarding suicide risk, bisexual students (M = 9.69, SD = 3.97) reported a significantly higher suicide risk than heterosexual (M = 6.18, SD = 2.86) and other sexual minority students (M = 8.02, SD = 3.30) (all ps < .001), while heterosexual students reported a significantly lower suicide than other sexual minority students ($p < .001$).

Visual impairment was significantly related to total weekly drinks (t[9526] = -7.50,

$p < .001$), stress (t[9532] = 7.03, $p < .001$), PTSD (t[9532] = 5.39, $p < .001$), and suicide risk (t[9532] = 2.00, $p = .04$). Students with visual impairment ($M = 4.26$, $SD = 5.13$) reported significantly higher weekly drinking totals than students without visual impairment ($M = 3.20$, $SD = 5.21$). Students with visual impairment ($M = 13.32$, $SD = 5.06$) reported significantly more stress than students without visual impairment ($M = 12.36$, $SD = 4.96$). Students with visual impairment ($M = 40.66$, $SD = 19.05$) also reported significantly more PTSD than students without visual impairment ($M = 37.90$, $SD = 17.87$). Students without visual impairment ($M = 6.73$, $SD = 3.30$) reported a significantly higher suicide risk than students with visual impairment ($M = 6.55$, $SD = 2.80$).

A self-reported ADD/ADHD diagnosis was significantly related to total weekly drinks (t[9526] = -18.08, $p < .001$), anxiety (t[9532] = -7.88, $p < .001$), stress (t[9532] = -9.54, $p < .001$), PTSD (t[9532] = -13.93, $p < .001$), and suicide risk (t[9532] = -6.46, $p < .001$). Students with ADD/ADHD ($M = 5.68$, $SD = 7.95$) reported significantly higher weekly drinking totals than students without ADD/ADHD ($M = 2.99$, $SD = 4.47$). Students with ADD/ADHD ($M = 11.74$, $SD = 4.24$) also reported significantly more anxiety without ADD/ADHD ($M = 10.78$, $SD = 4.22$). Students with ADD/ADHD ($M = 14.35$, $SD = 5.23$) reported significantly more stress than students without ADD/ADHD ($M = 12.95$, $SD = 5.00$) and students with ADD/ADHD ($M = 46.65$, $SD = 20.74$) reported significantly more PTSD than students without ADD/ADHD ($M = 39.08$, $SD = 18.32$). Students with ADD/ADHD ($M = 7.21$, $SD = 3.25$) also reported a significantly higher suicide risk than students without ADD/ADHD ($M = 6.61$, $SD = 3.21$).

A self-reported chronic health condition was significantly related to depression (t[9532] = -10.85, $p < .001$), anxiety (t[9532] = -19.55, $p < .001$), stress (t[9532] = -16.02, $p < .001$), PTSD

(t[9532] = -17.67, $p < .001$), and suicide risk (t[9532] = -12.18, $p < .001$). Students with a chronic health condition ($M = 13.72$, $SD = 6.00$) reported significantly more depression than students without a chronic health condition ($M = 11.58$, $SD = 5.14$). Students with a chronic health condition ($M = 13.75$, $SD = 4.78$) also reported significantly more anxiety than students without a chronic health condition ($M = 10.67$, $SD = 4.09$). Students with a chronic health condition ($M = 15.94$, $SD = 5.54$) also reported significantly more stress than students without a chronic health condition ($M = 12.92$, $SD = 4.94$). Students with a chronic health condition ($M = 51.64$, $SD = 23.34$) reported significantly more PTSD than students without a chronic health condition ($M = 39.20$, $SD = 18.11$) and students with a chronic health condition ($M = 8.06$, $SD = 3.69$) reported a significantly higher suicide risk than students without a chronic health condition ($M = 6.58$, $SD = 3.15$).

A self-reported psychiatric and/or psychological condition was significantly related to total weekly drinks (t[9526] = -12.88, $p < .001$), depression (t[9532] = -24.55, $p < .001$), anxiety (t[9532] = -30.47, $p < .001$), stress (t[9532] = -31.05, $p < .001$]), PTSD (t[9532] = -33.67, $p < .001$), and suicide risk (t[9532] = -28.24, $p < .001$). Students with a psychiatric and/or psychological condition ($M = 5.06$, $SD = 8.49$) reported significantly higher weekly drinking totals than students without a psychiatric and/or psychological condition ($M = 3.10$, $SD = 4.39$). Students with a psychiatric and/or psychological condition ($M = 14.91$, $SD = 5.35$) reported significantly more depression than students without a psychiatric and/or psychological condition ($M = 11.23$, $SD = 5.04$). Students with a psychiatric and/or psychological condition ($M = 14.03$, $SD = 4.39$) also reported significantly more anxiety than students without a psychiatric and/or psychological condition ($M = 10.40$, $SD = 3.98$). Students with a psychiatric and/or psychological condition ($M = 16.94$, $SD = 4.87$) reported significantly more stress than students

without a psychiatric and/or psychological condition (M = 12.53, SD = 4.81) and students with a psychiatric and/or psychological condition (M = 55.37, SD = 19.04) reported significantly more PTSD than students without a psychiatric and/or psychological condition (M = 37.69, SD = 17.65). Students with a psychiatric and/or psychological condition (M = 8.91, SD = 3.63) reported a significantly higher suicide risk than students without a psychiatric and/or psychological condition (M = 6.33, SD = 3.00).

Military Service was significantly related to total weekly drinks (t[9526] = 10.47, p < .001), anxiety (t[9532] = -5.87, p < .001), PTSD (t[9532] = 3.05, p < .01), and suicide risk (t[9532] = 3.94, p < .001). Students who reported military service (M = 5.90, SD = 10.84) reported significantly higher weekly drinking totals than students who did not report military service (M = 3.26, SD = 4.74). Students who did not report military service (M = 10.97, SD = 4.24) reported significantly more anxiety than students who did report military service (M = 9.76, SD = 4.02). Students who reported military service (M = 42.86, SD = 22.85) reported significantly more PTSD than students who did not report military service (M = 40.05, SD = 18.66). Students who reported military service (M = 7.29, SD = 3.62) also reported a significantly higher suicide risk than students who did not report military service (M = 6.67, SD = 3.20).

Greek Life was significantly related total weekly drinks (t[9526] = -19.45, p < .001), anxiety (t[9532] = -2.45, p < .05), stress (t[9532] = -4.26, p < .001), PTSD (t[9532] = -6.79, p < .001), and suicide risk (t[9532] = 10.36, p < .001). Students who were engaged in Greek life (M = 6.21, SD = 8.62) reported significantly higher weekly drinking totals than students who were not engaged in Greek life (M = 3.01, SD = 4.46). Students who were engaged in Greek life (M = 11.21, SD = 4.40) also reported significantly more anxiety than students who were not engaged

in Greek life (*M* = 10.88, *SD* = 4.21). Students who were engaged in Greek life (*M* = 13.77, *SD* = 5.66) reported significantly more stress than students who were not engaged in Greek life (*M* = 13.08, *SD* = 4.97). Students who were engaged in Greek life (*M* = 43.83, *SD* = 21.47) reported significantly more PTSD than students who were not engaged in Greek life (*M* = 39.71, *SD* = 18.47). Students who were not engaged in Greek life (*M* = 6.82, *SD* = 3.25) reported a significantly higher suicide risk than students who were engaged in Greek life (*M* = 5.75, *SD* = 2.80). Given these results, the following demographic variables will be included as covariates in further analyses where mental health is the outcome: race, ethnicity, year in school, campus housing, sexual orientation, visual impairment, a self-reported ADD/ADHD diagnosis, a self-reported chronic health condition, a self-reported psychiatric/psychological condition, military service and Greek Life.

Health service use models

Preliminary analyses were again performed to determine whether demographic variables were related to health service use measures, including both actual reported use (i.e., use of any of the following: ODU Counseling Center, ODU Health Services, ODU Women's Center, and Off-Campus Services) and willingness to use (i.e., same set of service providers). Analyses for actual health service use are presented first. An independent samples *t*-test was computed with age and actual health service use to identify possible covariates. Next, Chi-square tests of independence were run for categorical demographics and health service use measures. Prior to running analyses, the decision was made that in order to retain a demographic as a control variable the demographic must be significantly associated with the more than half of the health service use outcomes.

No demographic variables displayed significant associations with any health service use outcomes. Therefore, no demographic covariates will be used in models predicting actual health service use.

Regarding willingness to use health services, demographics variables were again tested for associations with the set of willingness to use: ODU Counseling Center, ODU Health Services, ODU Women's Center, and Off-Campus Services. Pearson correlations were computed with age and willingness health service use measures to identify possible covariates. Next, between groups tests (i.e. independent samples *t*-tests, one-way analysis of variance) were run for categorical demographics and willingness health service use measures. Bonferroni post-hoc tests were used for ANOVAs. The same decision rule for retention of a demographic as a control variable was used as in prior analyses (i.e., associated with more than half of willingness variables).

Sexual orientation, visual impairment, and Greek life demonstrated non-significant associations with willingness outcomes. The following demographics demonstrated significant associations: age, race, ethnicity, year in school, campus housing, a self-reported ADD/ADHD diagnosis, a self-reported chronic health condition, a self-reported psychiatric/psychological condition, and military service.

Age displayed a significant positive association with willingness to use ODU Counseling Center ($r = .02$, $p = .04$), significant negative association with willingness to use ODU Health Services ($r = -.07$, $p < .001$), and significant positive association with willingness to use Off-Campus Services ($r = .07$, $p < .001$).

Race was significantly associated with willingness to use ODU Counseling Center ($F[3, 9490] = 10.63$, $p < .001$), ODU Women's Center ($F[3, 9490] = 2.72$, $p = .04$), and Off-Campus

Services (F[3, 9490] = 21.32, $p < .001$). White students ($M = 5.00$, $SD = 1.96$) reported significantly higher willingness to use ODU Counseling Center than African American ($M = 4.80$, $SD = 2.00$) and Asian ($M = 4.61$, $SD = 1.78$) students (all ps $< .001$). Asian students reported significantly lower willingness to use ODU Counseling Center than Other racial minority students ($M = 4.90$, $SD = 1.82$ $p < .05$). African American students ($M = 4.99$, $SD = 1.99$) reported significantly higher willingness to use ODU Women's Center than Other racial minority students ($M = 4.81$, $SD = 1.90$, $p < .05$). White students ($M = 5.17$, $SD = 1.90$) reported significantly higher willingness to use Off-Campus Services than African American ($M = 4.82$, $SD = 2.12$, $p < .001$), Asian ($M = 4.92$, $SD = 1.77$, $p < .001$) and Other racial minority ($M = 4.90$, $SD = 1.77$, $p < .05$) students.

Ethnicity was significantly associated with willingness to use ODU Counseling Center (t[9489] = -3.24, $p = .001$), ODU Women's Center (t[9489] = -4.20, $p < .001$) and Off-Campus Services (t[9489] = 3.96, $p < .001$). Hispanic students ($M = 5.09$, $SD = 1.75$) reported significantly higher willingness to use ODU Counseling Center than non-Hispanic students ($M = 4.88$, $SD = 1.96$). Hispanic students ($M = 5.15$, $SD = 1.75$) also reported significantly higher willingness to use ODU Women's Center than non-Hispanic students ($M = 4.88$, $SD = 1.95$). Non-Hispanic students ($M = 5.05$, $SD = 1.95$) reported significantly higher willingness to use Off-Campus Services than Hispanic students ($M = 4.79$, $SD = 1.80$).

Year in school was significantly associated with willingness to use ODU Counseling Center (F[5, 9490] = 8.75, $p < .001$), ODU Health Services (F[5, 9490] = 13.74, $p < .001$), ODU Women's Center (F[5, 9490] = 6.46, $p < .001$) and Off-Campus Services (F[5, 9490] = 47.03, $p < .001$). Sophomores ($M = 4.67$, $SD = 2.09$) reported significantly lower willingness to use ODU Counseling Center than Freshman ($M = 4.92$, $SD = 1.74$), Juniors ($M = 5.08$, $SD = 1.93$),

Seniors (M = 4.91, SD = 1.90), and Other (M = 5.25, SD = 1.39) (all ps < .01). Juniors reported significantly higher willingness than Graduate students (M = 4.83, SD = 2.11) to use ODU Counseling Center (p = .001). Regarding ODU Health Services, Juniors (M = 5.00, SD = 2.07) reported significantly lower willingness to use ODU Health Services than Freshman (M = 5.27, SD = 1.82), Sophomores (M = 5.33, SD = 1.94), Seniors (M = 5.25, SD = 1.78) and Graduate students (M = 5.51, SD = 1.89) (all ps < .001). Graduate students reported significantly higher willingness to use ODU Health Services than Freshman, Juniors and Seniors (all ps < .01). Regarding ODU Women's Center, Juniors (M = 4.72, SD = 2.02) reported significantly lower willingness to use ODU Women's Center than Freshman (M = 4.97, SD = 1.86), Sophomores (M = 5.00, SD = 1.98) and Graduate students (M = 5.03, SD = 1.93) (all ps < .01). Regarding Off-Campus Services, Freshman (M = 4.92, SD = 1.84) reported significantly lower willingness to use Off-Campus Services than Juniors (M = 5.14, SD = 1.90), Seniors (M = 5.17, SD = 1.82) and Graduate Students (M = 5.31, SD = 1.94) (all ps < .01). Sophomores (M = 4.34, SD = 2.21) reported significantly lower willingness to use Off-Campus Services than all other groups, including Other (M = 5.00, SD = 1.33) (all ps < .001).

Campus Housing was significantly related to willingness to use ODU Health Services (t[9489] = -4.84, p < .001), ODU Women's Center (t[9489] = -3.37, p = .001), and Off-Campus Services (t[9489] = 6.08, p < .001). Students living on campus (M = 5.41, SD = 2.75) reported significantly higher willingness to use ODU Health Services than students living off-campus (M = 5.20, SD = 1.94). Students living on campus (M = 5.02, SD = 1.88) reported significantly higher willingness to use ODU Women's Center than students living off-campus (M = 4.87, SD = 1.94). Students living off-campus reported significantly higher willingness to use Off-Campus Services (M = 5.10, SD = 1.95) than those students living on-campus (M = 4.83, SD = 1.88).

A self-reported ADD/ADHD diagnosis was significantly related to willingness to use ODU Counseling Center ($t[9489] = 2.48$, $p < .01$), ODU Health Services ($t[9489] = 4.82$, $p < .001$), ODU Women's Center ($t[9489] = 6.14$, $p < .001$), and Off-Campus Services ($t[9489] = -2.33$, $p < .05$). Students with ADD/ADHD ($M = 4.79$, $SD = 2.05$) reported significantly lower willingness to use ODU Counseling Center than students without ADD/ADHD ($M = 4.93$, $SD = 1.92$). Students with ADD/ADHD reported significantly lower willingness to use ODU Health Services ($M = 5.03$, $SD = 2.05$) than students without ADD/ADHD ($M = 5.30$, $SD = 1.87$). Students with ADD/ADHD also reported significantly lower willingness to use ODU Women's Center ($M = 4.62$, $SD = 2.13$) than students without ADD/ADHD ($M = 4.96$, $SD = 1.88$). Students with ADD/ADHD ($M = 5.13$, $SD = 1.87$) reported significantly higher willingness to use Off-Campus Services than students without ADD/ADHD ($M = 5.00$, $SD = 1.95$).

A self-reported chronic health condition was significantly associated with willingness to use ODU Counseling Center ($t[9489] = 6.16$, $p < .001$), ODU Health Services ($t[9489] = 6.29$, $p < .001$), ODU Women's Center ($t[9489] = 6.01$, $p < .001$), and Off-Campus Services ($t[9489] = -11.78$, $p < .001$). Students with a chronic health condition ($M = 4.49$, $SD = 2.01$) reported significantly lower willingness to use ODU Counseling Center than students without a chronic health condition ($M = 4.94$, $SD = 1.93$). Students with a chronic health condition ($M = 4.84$, $SD = 2.12$) reported significantly lower willingness to use ODU Health Services compared to students without a chronic health condition ($M = 5.30$, $SD = 1.87$). Students with a chronic health condition ($M = 4.51$, $SD = 1.20$) also reported significantly lower willingness to use ODU Women's Center compared to students without a chronic health condition ($M = 4.95$, $SD = 1.91$). Students with a chronic health condition ($M = 5.98$, $SD = 1.59$) reported significantly higher

willingness to use Off-Campus Services compared to students without a chronic health condition ($M = 4.95$, $SD = 1.95$).

A self-reported psychiatric and/or psychological condition was significantly related to willingness to use ODU Health Services ($t[9489] = -5.21$, $p < .001$), ODU Women's Center ($t[9489] = -4.19$, $p < .001$), and Off-Campus Services ($t[9489] = -5.80$, $p < .001$). Students with a psychiatric and/or psychological condition ($M = 5.51$, $SD = 1.74$) reported significantly higher willingness to use ODU Health Services than students without a psychiatric and/or psychological condition ($M = 5.22$, $SD = 1.92$). Students with a psychiatric and/or psychological condition ($M = 5.12$, $SD = 1.73$) reported significantly higher willingness to use ODU Women's Center than students without a psychiatric and/or psychological condition ($M = 4.88$, $SD = 1.95$). Students with a psychiatric and/or psychological condition ($M = 5.31$, $SD = 1.77$) reported significantly higher willingness to use Off-Campus Services than students without a psychiatric and/or psychological condition ($M = 4.97$, $SD = 1.96$).

Military Service was significantly related with willingness to use ODU Counseling Center ($t[9489] = 6.16$, $p < .001$), ODU Health Services ($t[9489] = 6.29$, $p < .001$), ODU Women's Center ($t[9489] = 6.01$, $p < .001$), and Off-Campus Services ($t[9489] = -11.78$, $p < .001$). Students with military service ($M = 5.14$, $SD = 1.99$) reported significantly higher willingness to use ODU Counseling Center than students without military service ($M = 4.90$, $SD = 1.94$). Students with military service ($M = 4.14$, $SD = 2.45$) reported significantly lower willingness to use ODU Health Services than students without military service ($M = 5.32$, $SD = 1.85$). Students with military service ($M = 4.48$, $SD = 2.15$) reported significantly lower willingness to use ODU Women's Center than students without military service ($M = 4.93$, $SD = 1.91$). Students with military service ($M = 4.71$, $SD = 2.36$) reported significantly lower

willingness to use Off-Campus Services than students without military service (M = 5.04, SD = 1.91). Given these results, the following demographics variables will be included as covariates in further analyses where willingness to use health services is the outcome: age, race, ethnicity, year in school, campus housing, a self-reported ADD/ADHD diagnosis, a self-reported chronic health condition, a self-reported psychiatric/psychological condition and military service.

Hypothesis Testing

Mental Health Hypothesis Testing

Hypotheses 1 through 4 were tested using a series of multivariate general linear models (mGLM). Both categorical and continuous variables are analyzable in mGLM (Miles, 2005). For each predictor, an overall test is generated denoting the significance of the association with the set of criterion measures. In cases where the multivariate overall test is significant, the univariate predictive association is also examined (Cohen et al., 2003). Due to the large number of analyses and large overall sample size (using imputed data set), an effect size cut-off of 0.01 was used to identify multivariate effects for variables of interest (i.e., non-covariates) requiring further univariate inspection (i.e., only significant univariate effects are emphasized). Univariate effect reporting is guided by the same effect size cut-off as well. Interpretation of partial eta-squared effect sizes were based on the following guidelines: 0.01 is small, 0.06 is medium, and 0.14 is large (Field, 2013).

To test hypotheses 1, 2 and 3 the following variables were entered into the mGLM model: (1) set of criterion measures (i.e., total weekly drinks, depression, anxiety, stress, PTSD, and suicide risk), (2) covariate predictors of race, ethnicity, year in school, campus housing, sexual orientation, vision impairment, self-reported ADD/ADHD diagnosis, self-reported chronic health condition, self-reported psychiatric/psychological condition, military service and

Greek life, (3) main effects for victimization (i.e., total of 7), (4) main effects for ERQ reappraisal and ERQ suppression, and (5) all two-way interaction terms of an ERQ subscale by victimization (i.e., 14 total interaction terms). Multivariate covariate effects satisfying effect size cut-offs will be noted, but univariate inspection is not reported (see preliminary analyses for patterns of demographic-outcome variable associations).

Demographic variables demonstrating significant multivariate association with mental health symptoms were race, year in school, campus housing, sexual orientation, vision impairment, self-reported ADD/ADHD diagnosis, self-reported chronic health condition, self-reported psychiatric/psychological condition, military service and Greek life. Table III.3 shows the multivariate statistics for the mGLM of victimization and emotion regulation predicting mental health.

Table III.3.

Multivariate Tests for Emotion Regulation and Mental Health mGLM Model

Variable	Wilks' λ	F (df)	*p*-value	η_p^2
Race	0.94	30.36 (18, 26712.15)	< .001	.019
Ethnicity	0.99	11.72 (6, 9444)	< .001	.007
School Year	0.87	45.55 (30, 37778)	< .001	.028
Campus Housing	0.97	46.22 (6, 9444)	< .001	.029
Sexual Orientation	0.87	108.34 (12, 1888)	< .001	.064
Vision Impairment	0.97	51.50 (6, 9444)	< .001	.032
ADD/ADHD Diagnosis	0.94	100.27 (6, 9444)	< .001	.060
Chronic Health Condition	0.96	62.86 (6, 9444)	< .001	.038
Psychiatric/Psychological Condition	0.92	138.64 (6, 9444)	< .001	.081
Military Service	0.97	53.65 (6, 9444)	< .001	.033
Greek Life	0.95	79.88 (6, 9444)	< .001	.048
Unwanted Touching	0.98	24.81 (6, 9444)	< .001	.016
Actual Oral Sex	0.99	17.55 (6, 9444)	< .001	.011
Actual Vaginal Sex	0.99	20.40 (6, 9444)	< .001	.013
Actual Anal Sex	0.99	14.11 (6, 9444)	< .001	.009
Attempted Oral Sex	0.98	23.75 (6, 9444)	< .001	.015
Attempted Vaginal Sex	0.98	29.47 (6, 9444)	< .001	.018
Attempted Anal Sex	0.99	9.57 (6, 9444)	< .001	.006
ERQ Reappraisal	0.97	45.52 (6, 9444)	< .001	.028
ERQ Suppression	0.99	19.05 (6, 9444)	< .001	.012
Unwanted Touching x ERQ Reappraisal	1.00	15.41 (6, 9444)	< .001	.010
Actual Oral Sex x ERQ Reappraisal	0.99	12.32 (6, 9444)	< .001	.008
Actual Vaginal Sex x ERQ Reappraisal	0.99	7.34 (6, 9444)	< .001	.005
Actual Anal Sex x ERQ Reappraisal	0.99	10.26 (6, 9444)	< .001	.006
Attempted Oral Sex x ERQ Reappraisal	0.98	45.00 (6, 9444)	< .001	.028
Attempted Vaginal Sex x ERQ Reappraisal	0.99	16.11 (6, 9444)	< .001	.010
Attempted Anal Sex x ERQ Reappraisal	0.98	24.35 (6, 9444)	< .001	.015
Unwanted Touching x ERQ Suppression	0.98	4.78 (6, 9444)	< .001	.003

Table III.3. Continued

Variable	Wilks' λ	F (df)	*p*-value	η_p^2
Actual Oral Sex x ERQ Suppression	1.00	3.86 (6, 9444)	< .01	.002
Actual Vaginal Sex x ERQ Suppression	0.99	16.18 (6, 9444)	< .001	.010
Actual Anal Sex x ERQ Suppression	0.99	16.22 (6, 9444)	< .001	.010
Attempted Oral Sex x ERQ Suppression	0.99	13.75 (6, 9444)	< .001	.009
Attempted Vaginal Sex x ERQ Suppression	0.99	18.40 (6, 9444)	< .001	.012
Attempted Anal Sex x ERQ Suppression	0.98	27.05 (6, 9444)	< .001	.017

Notes: ADD/ADHD = Attention Deficit Disorder/Attention-Deficit Hyperactivity Disorder, ERQ = emotion regulation questionnaire, x = interaction term, η_p^2 = partial eta squared.

All predictors were statistically significant at the multivariate level. Five of seven main effects for victimization satisfied the effect size cut off: unwanted touching, actual oral sex, actual vaginal sex, attempted oral sex, and attempted vaginal sex. Both emotion regulation main effects satisfied effect size cut-off. The following victimization by emotion regulation interaction terms satisfied effect size cut-off: unwanted touching by emotion reappraisal, attempted oral sex by reappraisal, attempted vaginal sex by emotion reappraisal, attempted anal sex by emotion reappraisal, actual vaginal sex by emotion suppression, actual anal sex by emotional suppression, attempted vaginal sex by emotion suppression, and attempted anal sex by emotional suppression.

Significant univariate effects are listed by model (see Table III.4 for full model statistics for each mental health outcome).

Table III.4.

Univariate Model Statistics for Victimization and Emotion Regulation Predicting Mental Health

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Alcohol Model					
Intercept	1.20 (0.01)	77.35	< .001	1.16 to 1.23	.388
Unwanted Touching	0.06 (0.01)	11.28	< .001	0.05 to 0.07	.013
Actual Oral Sex	0.02 (0.1)	2.75	< .01	0.00 to 0.03	.001
Actual Vaginal Sex	-0.02 (0.01)	-2.64	< .01	-0.04 to -0.01	.001
Actual Anal Sex	0.12 (0.02)	7.95	< .001	0.09 to 0.15	.007
Attempted Oral Sex	-0.07 (0.01)	-7.61	< .001	-0.09 to -0.05	.006
Attempted Vaginal Sex	0.01 (0.01)	0.88	.380	-0.01 to 0.03	.000
Attempted Anal Sex	0.02 (0.01)	1.74	.081	-0.003 to 0.05	.000
Cognitive Reappraisal	-0.005 (0.00)	-3.43	< .001	-0.01 to 0.00	.001
Emotion Suppression	0.01 (0.00)	7.24	< .001	0.01 to 0.01	.006
Unwanted Touching x ERQ Reappraisal	0.67 (0.13)	5.01	< .001	0.41 to 0.93	.003
Actual Oral Sex x ERQ Reappraisal	-0.44 (0.13)	-3.28	< .01	-0.71 to -0.18	.001
Actual Vaginal Sex x ERQ Reappraisal	-0.66 (0.19)	-3.34	< .01	-1.03 to 0.28	.001
Actual Anal Sex x ERQ Reappraisal	-0.78 (0.30)	-2.62	< .01	-1.36 to -0.20	.001
Attempted Oral Sex x ERQ Reappraisal	0.77 (0.21)	3.57	< .001	0.35 to 1.19	.001
Attempted Vaginal Sex x ERQ Reappraisal	-0.19 (0.20)	-0.99	.321	-0.58 to 0.19	.000
Attempted Anal Sex x ERQ Reappraisal	2.64 (0.38)	6.95	< .001	1.89 to 3.39	.005
Unwanted Touching x ERQ Suppression	0.09 (0.13)	.677	.498	-0.16 to 0.33	.000
Actual Oral Sex x ERQ Suppression	0.13 (0.14)	.983	.326	-0.13 to 0.40	.000
Actual Vaginal Sex x ERQ Suppression	-0.47 (0.16)	-2.99	< .01	-0.77 to -0.16	.001
Actual Anal Sex x ERQ Suppression	2.35 (0.33)	7.17	< .001	1.71 to 2.99	.005
Attempted Oral Sex x ERQ Suppression	0.19 (0.19)	.988	.323	-0.18 to 0.55	.000
Attempted Vaginal Sex x ERQ Suppression	-1.00 (0.21)	-4.65	< .001	-1.42 to -0.58	.002
Attempted Anal Sex x ERQ Suppression	-2.89 (0.32)	-9.10	< .001	-3.51 to -2.26	.009
White	0.01 (0.00)	2.72	< .01	0.00 to 0.02	.001
African American	-0.02 (0.00)	-3.61	< .001	-0.03 to -0.01	.001

Table III.4. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Asian/Pacific Islander	-0.01 (0.00)	-1.84	.066	-0.03 to 0.00	.000
Heterosexual	0.03 (0.00)	6.28	< .001	0.02 to 0.04	.004
Bisexual	0.03 (0.01)	5.46	< .001	0.02 to 0.05	.003
Any Military Service	0.08 (0.01)	11.93	< .001	0.07 to 0.10	.015
Non-Hispanic	-0.02 (0.00)	-4.10	< .001	-0.03 to -0.01	.002
Non-Greek Life	-0.07 (0.00)	-15.70	< .001	-0.08 to -0.06	.025
Freshman	-0.03 (0.01)	-2.31	< .05	-0.05 to 0.00	.001
Sophomore	0.05 (0.01)	4.19	< .001	0.02 to 0.07	.002
Junior	0.02 (0.01)	1.54	.125	-0.00 to 0.04	.000
Senior	0.05 (0.01)	4.89	< .001	0.03 to 0.08	.003
Graduate Student	0.07 (0.01)	6.03	< .001	0.05 to 0.09	.004
Off Campus Student	-0.02 (0.00)	-6.89	< .001	-0.03 to -0.02	.005
Visual Impairment	0.06 (0.00)	14.73	< .001	0.05 to 0.06	.022
ADHD/ADD	0.07 (0.00)	17.57	< .001	0.06 to 0.08	.032
Chronic Health Diagnosis	-0.01 (0.00)	-2.13	< .05	-0.02 to 0.00	.000
Psychological Diagnosis	0.04 (0.00)	10.23	< .001	0.04 to 0.05	.011
<u>Suicide Model</u>					
Intercept	11.57 (0.32)	36.26	< .001	10.94 to 12.19	.122
Unwanted Touching	-1.55 (0.11)	-1.35	.177	-0.38 to 0.07	.000
Actual Oral Sex	-0.50 (0.13)	-3.89	< .001	-0.76 to -0.25	.002
Actual Vaginal Sex	1.41 (0.18)	7.85	< .001	1.06 to 1.77	.006
Actual Anal Sex	0.23 (0.32)	0.71	.476	-0.40 to 0.86	.000
Attempted Oral Sex	1.15 (0.19)	6.13	< .001	0.78 to 1.52	.004
Attempted Vaginal Sex	1.26 (0.22)	5.77	< .001	0.83 to 1.70	.004
Attempted Anal Sex	1.28 (0.30)	4.29	< .001	0.69 to 1.86	.002
Cognitive Reappraisal	-0.41 (0.03)	-12.57	< .001	-0.48 to -0.35	.016
Emotion Suppression	0.46 (0.03)	13.84	< .001	0.40 to 0.53	.020
Unwanted Touching x ERQ Reappraisal	0.67 (0.13)	5.01	< .001	0.41 to 0.93	.003
Actual Oral Sex x ERQ Reappraisal	-0.44 (0.13)	-3.28	< .01	-0.71 to -0.18	.001

Table III.4. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Actual Vaginal Sex x ERQ Reappraisal	-0.66 (0.19)	-3.44	< .01	-1.03 to -0.28	.001
Actual Anal Sex x ERQ Reappraisal	-0.78 (0.30)	-2.62	< .05	-1.36 to -0.20	.001
Attempted Oral Sex x ERQ Reappraisal	0.77 (0.21)	3.57	< .001	0.35 to 1.19	.001
Attempted Vaginal Sex x ERQ Reappraisal	-0.19 (0.20)	-0.99	.321	-0.58 to 0.19	.000
Attempted Anal Sex x ERQ Reappraisal	2.64 (0.38)	6.95	< .001	1.90 to 3.39	.005
Unwanted Touching x ERQ Suppression	0.90 (0.13)	0.68	.498	-0.16 to 0.33	.000
Actual Oral Sex x ERQ Suppression	0.13 (0.13)	0.98	.326	-0.13 to 0.40	.000
Actual Vaginal Sex x ERQ Suppression	-0.47 (0.16)	-3.00	< .01	-0.78 to -0.16	.001
Actual Anal Sex x ERQ Suppression	2.35 (0.33)	7.17	< .001	1.71 to 3.00	.005
Attempted Oral Sex x ERQ Suppression	0.19 (0.19)	0.99	.323	-0.18 to 0.55	.000
Attempted Vaginal Sex x ERQ Suppression	-1.00 (0.21)	-4.65	< .001	-1.42 to -0.58	.002
Attempted Anal Sex x ERQ Suppression	-2.89 (0.32)	-9.10	< .001	-3.51 to -2.26	.009
White	-1.15 (0.08)	-13.81	< .001	-1.31 to -0.98	.020
African American	-0.88 (0.10)	-9.08	< .001	-1.06 to -0.69	.009
Asian/Pacific Islander	-1.13 (0.14)	-9.56	< .001	-1.60 to -1.05	.010
Heterosexual	-1.18 (0.10)	-12.08	< .001	-1.38 to -1.00	.015
Bisexual	1.48 (0.13)	10.84	< .001	1.21 to 1.74	.012
Any Military Service	0.93 (0.14)	6.53	< .001	0.65 to 1.21	.004
Non-Hispanic	0.35 (0.10)	3.61	< .001	0.16 to 0.54	.001
Non-Greek Life	0.65 (0.09)	7.08	< .001	0.47 to 0.82	.005
Freshman	-1.55 (0.23)	-6.58	< .001	-2.01 to -1.09	.005
Sophomore	-2.03 (0.23)	-8.61	< .001	-2.49 to -1.56	.008
Junior	-1.82 (0.23)	-7.87	< .001	-2.27 to -1.37	.007
Senior	-1.84 (0.23)	-8.04	< .001	-2.27 to -1.39	.007
Graduate Student	-1.82 (0.23)	-7.82	< .001	-2.27 to -1.36	.006
Off Campus Student	-0.14 (0.08)	-1.85	.064	-0.29 to 0.01	.000
Visual Impairment	0.11 (0.08)	1.45	.148	-0.04 to 0.27	.000
ADHD/ADD	0.42 (0.08)	4.90	< .001	0.25 to 0.59	.003
Chronic Health Diagnosis	0.67 (0.11)	6.03	< .001	0.45 to 0.89	.004
Psychological Diagnosis	1.50 (0.09)	16.84	< .001	1.33 to 1.68	.029

Table III.4. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
PTSD Model					
Intercept	66.48 (1.85)	35.98	< .001	62.86 to 70.11	.121
Unwanted Touching	-0.21 (0.66)	-0.32	.753	-1.51 to 1.10	.000
Actual Oral Sex	1.53 (0.75)	2.03	.042	0.05 to 3.00	.000
Actual Vaginal Sex	1.36 (1.04)	1.30	.193	-0.68 to 3.40	.000
Actual Anal Sex	4.25 (1.87)	2.27	.023	0.58 to 7.92	.001
Attempted Oral Sex	8.05 (1.09)	7.39	< .001	5.91 to 10.18	.006
Attempted Vaginal Sex	3.14 (1.27)	2.48	< .05	0.65 to 5.63	.001
Attempted Anal Sex	-2.34 (1.73)	-1.35	.176	-5.72 to 1.05	.000
Cognitive Reappraisal	-2.09 (0.19)	-11.02	< .001	-2.46 to -1.72	.013
Emotion Suppression	5.17 (0.19)	26.82	< .001	4.79 to 5.55	.071
Unwanted Touching x ERQ Reappraisal	-0.29 (0.77)	-0.37	.711	-1.80 to 1.23	.000
Actual Oral Sex x ERQ Reappraisal	1.25 (0.78)	1.59	.112	-0.29 to 2.78	.000
Actual Vaginal Sex x ERQ Reappraisal	-1.61 (1.11)	-1.45	.147	-3.79 to 0.57	.000
Actual Anal Sex x ERQ Reappraisal	-6.66 (1.72)	-3.86	< .001	-10.04 to -3.28	.002
Attempted Oral Sex x ERQ Reappraisal	-9.15 (1.25)	-7.33	< .001	-11.60 to -6.70	.006
Attempted Vaginal Sex x ERQ Reappraisal	-1.95 (1.14)	-1.71	.087	-4.18 to 0.28	.000
Attempted Anal Sex x ERQ Reappraisal	23.89 (2.20)	10.84	< .001	19.57 to 28.21	.012
Unwanted Touching x ERQ Suppression	-1.25 (0.73)	-1.71	.088	-2.69 to 0.18	.000
Actual Oral Sex x ERQ Suppression	0.03 (0.78)	0.04	.970	-1.50 to 1.55	.000
Actual Vaginal Sex x ERQ Suppression	-5.01 (0.90)	-5.56	< .001	-6.79 to -3.25	.003
Actual Anal Sex x ERQ Suppression	-0.01 (1.90)	-0.01	.995	-3.73 to 3.71	.000
Attempted Oral Sex x ERQ Suppression	-7.30 (1.09)	-6.70	< .001	-9.44 to -5.16	.005
Attempted Vaginal Sex x ERQ Suppression	7.49 (1.25)	6.00	< .001	5.04 to 9.94	.004
Attempted Anal Sex x ERQ Suppression	-1.46 (1.84)	-0.79	.428	-5.06 to 2.15	.000
White	-2.88 (0.48)	-5.99	< .001	-3.82 to 1.94	.004
African American	-1.58 (0.56)	-2.82	< .01	-2.67 to -0.48	.001
Asian/Pacific Islander	-5.08 (0.80)	-6.31	< .001	-6.65 to -3.35	.004
Heterosexual	-3.18 (0.57)	-5.60	< .001	5.25 to 8.35	.003

Table III.4. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Bisexual	6.80 (0.79)	8.62	< .001	5.25 to 8.35	.008
Any Military Service	3.03 (0.83)	3.66	< .001	1.41 to 4.65	.001
Non-Hispanic	0.73 (0.57)	1.30	.194	-0.37 to 1.85	.000
Non-Greek Life	-4.99 (0.53)	-9.43	< .001	-6.02 to -3.95	.009
Freshman	2.25 (1.36)	-1.66	.098	-4.92 to 0.41	.000
Sophomore	1.66 (1.36)	1.22	.222	-1.01 to 4.34	.000
Junior	1.38 (1.34)	1.03	.301	-1.24 to 4.01	.000
Senior	0.78 (1.33)	0.59	.555	-1.82 to 3.38	.000
Graduate Student	-4.13 (1.35)	-3.07	< .01	-6.77 to -1.49	.001
Off Campus Student	3.67 (0.44)	8.34	< .001	2.80 to 4.53	.007
Visual Impairment	0.96 (0.46)	2.09	.036	0.06 to 1.86	.000
ADHD/ADD	5.26 (0.49)	10.63	< .001	4.29 to 6.23	.012
Chronic Health Diagnosis	7.13 (0.64)	11.07	< .001	5.87 to 8.39	.013
Psychological Diagnosis	11.49 (0.52)	22.08	< .001	10.38 to 12.41	.049
<u>Depression Model</u>					
Intercept	15.31 (0.52)	29.41	< .001	14.29 to 16.33	.084
Unwanted Touching	-0.02 (0.19)	-0.13	.899	-0.39 to 0.34	.000
Actual Oral Sex	-0.08 (0.21)	-0.39	.694	-0.50 to 0.33	.000
Actual Vaginal Sex	0.19 (0.29)	0.66	.510	-0.38 to 0.77	.000
Actual Anal Sex	1.46 (0.53)	2.76	< .01	0.42 to 2.49	.001
Attempted Oral Sex	1.52 (0.31)	4.93	< .001	0.91 to 2.12	.003
Attempted Vaginal Sex	0.96 (0.36)	2.68	< .01	0.26 to 1.66	.001
Attempted Anal Sex	-0.02 (0.49)	-0.04	.971	-0.97 to 0.94	.000
Cognitive Reappraisal	-1.12 (0.05)	-20.87	< .001	-1.22 to -1.01	.044
Emotion Suppression	1.33 (0.05)	24.45	< .001	1.22 to 1.43	.060
Unwanted Touching x ERQ Reappraisal	0.91 (0.22)	4.17	< .001	0.48 to 1.34	.002
Actual Oral Sex x ERQ Reappraisal	-0.29 (0.22)	-1.31	.190	-0.72 to 0.14	.000
Actual Vaginal Sex x ERQ Reappraisal	-0.00 (0.31)	-0.01	.989	-0.62 to 0.61	.000
Actual Anal Sex x ERQ Reappraisal	-0.59 (0.49)	-1.22	.224	-1.54 to 0.36	.000

Table III.4. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Attempted Oral Sex x ERQ Reappraisal	-4.38 (0.35)	-12.44	< .001	-5.07 to -3.69	.016
Attempted Vaginal Sex x ERQ Reappraisal	-0.43 (0.32)	-1.34	.179	-1.06 to 0.20	.000
Attempted Anal Sex x ERQ Reappraisal	3.45 (0.62)	5.55	< .001	2.23 to 4.67	.003
Unwanted Touching x ERQ Suppression	-0.43 (0.21)	-2.10	.036	-0.84 to -0.03	.000
Actual Oral Sex x ERQ Suppression	0.17 (0.22)	.798	.425	-0.25 to 0.60	.000
Actual Vaginal Sex x ERQ Suppression	0.33 (0.25)	1.31	.189	-0.16 to 0.83	.000
Actual Anal Sex x ERQ Suppression	2.29 (0.53)	4.27	< .001	1.24 to 3.33	.002
Attempted Oral Sex x ERQ Suppression	-1.86 (0.31)	-6.05	< .001	-2.46 to -1.25	.004
Attempted Vaginal Sex x ERQ Suppression	1.56 (0.35)	4.45	< .001	0.88 to 2.25	.002
Attempted Anal Sex x ERQ Suppression	-3.68 (0.52)	-7.12	< .001	-4.70 to -2.67	.005
White	-0.39 (0.13)	-2.91	< .01	-0.66 to -0.13	.001
African American	-1.01 (0.16)	-6.42	< .001	-1.32 to -0.70	.004
Asian/Pacific Islander	-0.97 (0.23)	-4.29	< .001	-1.42 to -0.53	.002
Heterosexual	-2.76 (0.16)	-17.23	< .001	-3.07 to -2.45	.030
Bisexual	0.60 (0.22)	2.71	< .01	0.17 to 1.04	.001
Any Military Service	0.58 (0.23)	2.49	< .05	0.12 to 1.04	.001
Non-Hispanic	-0.07 (0.16)	-0.43	.668	-0.38 to 0.24	.000
Non-Greek Life	-0.24 (0.15)	-1.59	.112	-0.53 to 0.05	.000
Freshman	0.83 (0.38)	2.17	< .05	0.08 to 1.58	.000
Sophomore	1.45 (0.38)	3.78	< .001	0.70 to 2.21	.002
Junior	1.29 (0.38)	3.41	< .01	0.55 to 2.03	.001
Senior	1.10 (0.38)	2.93	< .01	0.36 to 1.83	.001
Graduate Student	-0.41 (0.38)	-1.08	.281	-1.15 to 0.33	.000
Off Campus Student	0.96 (0.12)	7.71	< .001	0.71 to 1.20	006
Visual Impairment	0.61 (0.13)	4.67	< .001	0.35 to 0.86	.002
ADHD/ADD	-0.24 (0.14)	-1.70	.090	-0.51 to 0.04	.000
Chronic Health Diagnosis	0.57 (0.18)	3.13	< .01	0.21 to 0.92	.001
Psychological Diagnosis	1.71 (0.14)	11.75	< .001	1.42 to 2.00	.014

Table III.4. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Anxiety Model					
Intercept	16.97 (0.42)	39.84	< .001	16.10 to 17.77	.144
Unwanted Touching	-0.25 (0.15)	-1.64	.101	-0.55 to -0.05	.000
Actual Oral Sex	0.56 (0.17)	3.25	< .01	0.22 to 0.90	.001
Actual Vaginal Sex	-0.98 (0.24)	-4.11	< .001	-1.45 to -0.51	.002
Actual Anal Sex	1.53 (0.43)	3.54	< .001	0.68 to 2.37	.001
Attempted Oral Sex	0.69 (0.25)	2.74	< .01	0.19 to 1.18	.001
Attempted Vaginal Sex	-1.98 (0.29)	-6.77	< .001	-2.55 to -1.40	.005
Attempted Anal Sex	0.91 (0.40)	2.28	.023	0.13 to 1.68	.001
Cognitive Reappraisal	-0.50 (0.04)	-11.44	< .001	-0.58 to -0.41	.014
Emotion Suppression	1.00 (0.04)	22.66	< .001	0.02 to 1.09	.052
Unwanted Touching x ERQ Reappraisal	0.06 (0.18)	.359	.720	-0.28 to 0.41	.000
Actual Oral Sex x ERQ Reappraisal	0.36 (0.18)	1.98	.047	0.00 to 0.71	.000
Actual Vaginal Sex x ERQ Reappraisal	0.54 (0.26)	2.10	.036	0.04 to 1.04	.000
Actual Anal Sex x ERQ Reappraisal	-1.60 (0.40)	-4.02	< .001	-2.37 to -0.82	.002
Attempted Oral Sex x ERQ Reappraisal	-2.01 (0.26)	7.01	< .001	-2.57 to -1.45	.005
Attempted Vaginal Sex x ERQ Reappraisal	1.23 (0.26)	4.67	< .001	0.71 to 1.74	.002
Attempted Anal Sex x ERQ Reappraisal	2.11 (0.51)	4.16	< .001	1.12 to 3.11	.002
Unwanted Touching x ERQ Suppression	-0.76 (0.17)	-4.50	< .001	-1.09 to -0.43	.002
Actual Oral Sex x ERQ Suppression	0.51 (0.18)	2.88	< .01	0.16 to 0.87	.001
Actual Vaginal Sex x ERQ Suppression	0.07 (0.21)	0.33	.738	-0.34 to 0.48	.000
Actual Anal Sex x ERQ Suppression	0.55 (0.44)	1.26	.206	-0.30 to 1.41	.000
Attempted Oral Sex x ERQ Suppression	-1.29 (0.25)	-5.13	< .001	-1.78 to -0.79	.003
Attempted Vaginal Sex x ERQ Suppression	1.17 (0.29)	4.08	< .001	0.61 to 1.73	.002
Attempted Anal Sex x ERQ Suppression	-1.98 (0.42)	-4.68	< .001	-2.81 to 1.15	.002
White	-0.03 (0.11)	-0.29	.771	-0.25 to 0.18	.000
African American	0.64 (0.13)	-4.95	< .001	-0.89 to -0.38	.003
Asian/Pacific Islander	0.23 (0.18)	1.23	.220	-0.14 to 0.59	.000
Heterosexual	-0.46 (0.13)	-3.55	< .001	-0.72 to -0.21	.001

Table III.4. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Bisexual	2.00 (0.18)	11.03	< .001	1.65 to 2.36	.013
Any Military Service	-1.14 (0.19)	-5.98	< .001	-1.51 to -0.77	.004
Non-Hispanic	0.10 (0.13)	0.76	.445	-0.16 to 0.35	.000
Non-Greek Life	-0.70 (0.12)	-5.78	< .001	-0.94 to -0.46	.004
Freshman	-0.01 (0.31)	-0.03	.974	-0.62 to 0.60	.000
Sophomore	0.08 (0.31)	0.26	.795	-0.53 to 0.70	.000
Junior	0.57 (0.31)	1.84	.065	-0.04 to 1.17	.000
Senior	-0.29 (0.30)	-0.96	.337	-0.89 to 0.30	.000
Graduate Student	-1.87 (0.31)	-6.05	< .001	-2.48 to -1.27	.004
Off Campus Student	0.69 (0.10)	6.87	< .001	0.50 to 0.89	.005
Visual Impairment	0.64 (0.10)	6.04	< .001	0.43 to 0.84	.004
ADHD/ADD	0.77 (0.11)	6.74	< .001	0.54 to 0.99	.005
Chronic Health Diagnosis	2.28 (0.15)	15.37	< .001	1.98 to 2.57	.024
Psychological Diagnosis	2.29 (0.12)	19.32	< .001	2.06 to 2.53	.038
<u>Stress Model</u>					
Intercept	18.15 (0.51)	35.37	< .001	17.14 to 19.15	.117
Unwanted Touching	0.31 (0.18)	1.71	.099	-0.05 to 0.68	.000
Actual Oral Sex	-0.53 (0.21)	-2.54	< .05	-0.94 to -0.12	.001
Actual Vaginal Sex	-0.42 (0.29)	-1.46	.144	-0.99 to 0.14	.000
Actual Anal Sex	0.75 (0.52)	1.44	.151	-0.27 to 1.77	.000
Attempted Oral Sex	0.78 (0.30)	2.63	< .01	0.20 to 1.39	.001
Attempted Vaginal Sex	-0.61 (0.35)	-1.76	.086	-1.30 to 0.09	.000
Attempted Anal Sex	1.07 (0.48)	2.23	< .05	0.13 to 2.01	.001
Cognitive Reappraisal	-0.71 (0.05)	-13.53	< .001	-0.82 to -0.51	.019
Emotion Suppression	0.79 (0.05)	14.69	< .001	0.68 to 0.89	.022
Unwanted Touching x ERQ Reappraisal	-0.43 (0.21)	-2.03	< .05	-0.86 to -0.01	.000
Actual Oral Sex x ERQ Reappraisal	0.74 (.022)	3.40	< .01	0.31 to 1.17	.001
Actual Vaginal Sex x ERQ Reappraisal	0.00 (0.31)	0.01	.990	-0.60 to 0.61	.000
Actual Anal Sex x ERQ Reappraisal	0.01 (0.48)	0.32	.974	-0.92 to 0.95	.000

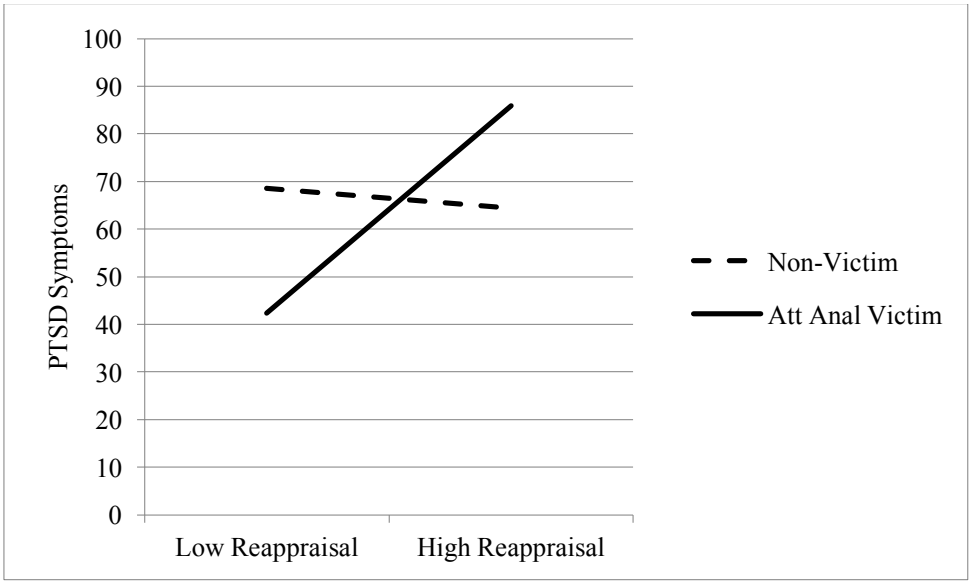
Table III.4. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Attempted Oral Sex x ERQ Reappraisal	-2.18 (0.35)	-6.30	< .001	-2.86 to -1.50	.004
Attempted Vaginal Sex x ERQ Reappraisal	-0.10 (0.32)	-0.30	.761	-0.72 to 0.52	.000
Attempted Anal Sex x ERQ Reappraisal	3.75 (0.61)	6.12	< .001	2.55 to 4.95	.004
Unwanted Touching x ERQ Suppression	-0.40 (0.20)	-1.97	< .05	-0.80 to -0.00	.000
Actual Oral Sex x ERQ Suppression	0.47 (0.22)	2.17	< .05	0.04 to 0.89	.000
Actual Vaginal Sex x ERQ Suppression	-0.50 (0.25)	-1.98	< .05	-0.99 to -0.00	.000
Actual Anal Sex x ERQ Suppression	2.32 (0.53)	4.41	< .001	1.29 to 3.36	.002
Attempted Oral Sex x ERQ Suppression	-1.03 (0.30)	-3.39	< .01	-1.62 to -0.43	.001
Attempted Vaginal Sex x ERQ Suppression	1.67 (0.35)	4.81	< .001	0.99 to 2.35	.002
Attempted Anal Sex x ERQ Suppression	-2.76 (0.51)	-5.41	< .001	-3.76 to -1.76	.003
White	0.10 (0.13)	0.74	.457	-0.16 to 0.36	.000
African American	-0.38 (0.15)	-2.42	< .05	-0.68 to -0.07	.001
Asian/Pacific Islander	0.35 (0.22)	1.59	.112	-0.08 to 0.79	.000
Heterosexual	-2.35 (0.16)	-14.89	< .001	-2.66 to -2.04	.023
Bisexual	0.45 (0.22)	2.06	< .05	0.02 to 0.88	.000
Any Military Service	-0.72 (0.23)	-3.12	< .01	-1.17 to -0.27	.001
Non-Hispanic	-0.44 (0.16)	-2.77	< .01	-0.74 to -0.13	.001
Non-Greek Life	-0.91 (0.15)	-6.20	< .001	-1.20 to -0.62	.004
Freshman	1.51 (0.38)	4.00	< .001	0.77 to 2.25	.002
Sophomore	1.91 (0.38)	5.04	< .001	1.17 to 2.65	.003
Junior	2.30 (0.37)	6.18	< .001	1.57 to 3.03	.004
Senior	2.23 (0.36)	6.06	< .001	1.51 to 2.96	.004
Graduate Student	-0.10 (0.37)	-0.28	.779	-0.84 to 0.63	.000
Off Campus Student	1.58 (0.12)	12.97	< .001	1.34 to 1.82	.017
Visual Impairment	0.12 (0.13)	0.98	.326	0.12 to 0.37	.000
ADHD/ADD	0.89 (0.14)	6.49	< .001	0.62 to 1.16	.004
Chronic Health Diagnosis	1.51 (0.18)	8.44	< .001	1.16 to 1.86	.007
Psychological Diagnosis	2.77 (0.14)	19.33	< .001	2.49 to 3.05	.038

Notes: Reference groups for demographics were Other/multi-racial (race), Gay/Lesbian/Queer+ (sexual orientation), non-military service (military status), Hispanic (ethnicity), Greek Life student (Greek life involvement), Other student status (year in school), on campus (residence), non-impaired (for all health conditions). ERQ = emotion regulation questionnaire, B = regression coefficient; SE = standard error; CI = confidence interval; η_p^2 = partial eta squared.

Regarding suicide risk, cognitive reappraisal displayed a small negative effect, whereas emotion suppression displayed a small positive effect. Concerning weekly total drinks, unwanted touching victims displayed higher scores (small effect) compared to non-victims. Regarding PTSD, cognitive reappraisal displayed a small negative effect, whereas emotion suppression displayed a moderate positive effect. The interaction between attempted anal sex and cognitive reappraisal also satisfied effect size cut-off. Figure III.1 depicts the pattern of the interaction.

Figure III.1. Attempted Anal Sex by Cognitive Reappraisal on PTSD

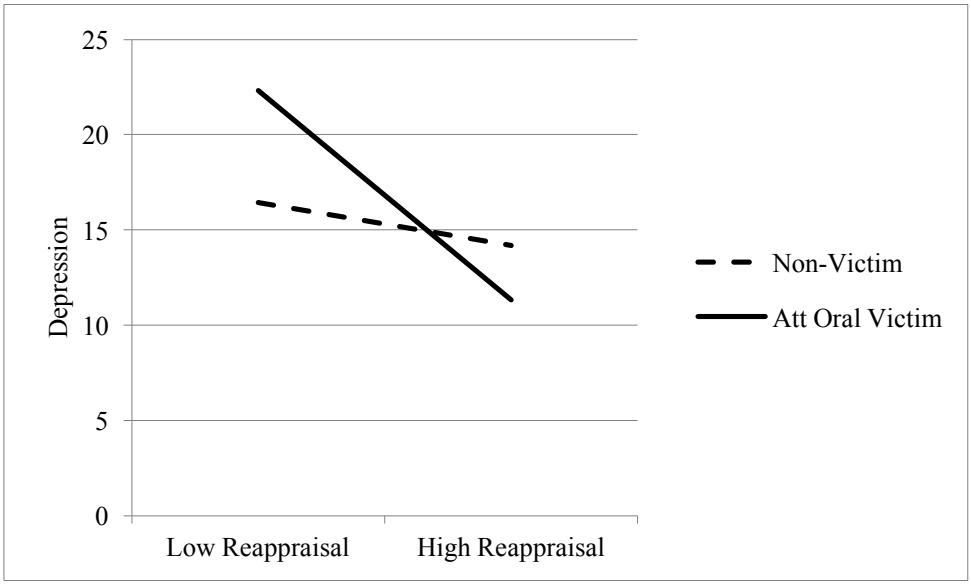


Note: Att = Attempted

Visual inspection of the pattern suggests that there is a notable *positive* association between cognitive reappraisal and PTSD symptoms, but only for victims. In other words, a suppression effect emerged in which the association between cognitive reappraisal and PTSD symptoms changed direction from the main effect to the interaction. Regarding depression, cognitive

reappraisal displayed a moderate negative effect, whereas emotion suppression displayed a moderate to large positive effect. The interaction between attempted oral sex and cognitive reappraisal also satisfied the effect size cut-off. Figure III.2 depicts the pattern of the interaction.

Figure III.2. Attempted Oral Sex by Cognitive Reappraisal on Depression



Note: Att = Attempted

Visual inspection of the pattern suggests that there is a small negative association between cognitive reappraisal and depression, but only for victims. In other words, victims with low cognitive reappraisal report higher rates of depression. Regarding anxiety, cognitive reappraisal displayed a small negative effect, whereas emotion suppression displayed a moderate positive effect. Regarding stress, cognitive reappraisal displayed a small negative, and emotion suppression displayed a small positive, effect.

To test hypothesis 4, the following variables were entered into the mGLM model: (1) set of criterion measures (i.e., total weekly drinks, depression, anxiety, stress, PTSD, and suicide risk), (2) covariate predictors of race, ethnicity, year in school, campus housing, sexual orientation, vision impairment, self-reported ADD/ADHD diagnosis, self-reported chronic health condition, self-reported psychiatric/psychological condition, military service and Greek life, (3) main effects for victimization (i.e., total of 7), (4) main effects for NAQ avoidance and NAQ approach, and (5) all two-way interaction terms of an NAQ subscale by victimization (i.e., 14 total interaction terms). Multivariate covariate effects satisfying effect size cut-offs will be noted, but univariate inspection is not reported (see preliminary analyses for patterns of demographic-outcome variable associations).

Demographic variables demonstrating significant multivariate association with mental health symptoms were race, year in school, campus housing, sexual orientation, vision impairment, self-reported ADD/ADHD diagnosis, self-reported chronic health condition, self-reported psychiatric/psychological condition, military service and Greek life. Table III.5 shows the multivariate statistics for the mGLM of victimization and need for affect predicting mental health.

Table III.5.

Multivariate Tests for Need for Affect and Mental Health mGLM Model

Variable	Wilks' λ	F (df)	*p*-value	η_p^2
Race	0.94	34.88 (18, 26700.84)	< .001	.022
Ethnicity	0.99	9.27 (6, 9444)	< .001	.006
School Year	0.87	45.61 (30, 37762)	< .001	.028
Campus Housing	0.98	34.72 (6, 9444)	< .001	.022
Sexual Orientation	0.88	101.65 (12, 18880)	< .001	.061
Vision Impairment	0.97	50.26 (6, 9444)	< .001	.031
ADD/ADHD Diagnosis	0.95	90.49 (6, 9444)	< .001	.054
Chronic Health Condition	0.96	58.46 (6, 9444)	< .001	.036
Psychiatric/Psychological Condition	0.92	144.68 (6, 9444)	< .001	.084
Military Service	0.97	48.43 (6, 9444)	< .001	.030
Greek Life	0.96	70.23 (6, 9444)	< .001	.043
Unwanted Touching	0.98	33.90 (6, 9444)	< .001	.021
Actual Oral Sex	0.98	24.63 (6, 9444)	< .001	.015
Actual Vaginal Sex	0.98	31.03 (6, 9444)	< .001	.019
Actual Anal Sex	0.98	29.94 (6, 9444)	< .001	.019
Attempted Oral Sex	0.98	38.40 (6, 9444)	< .001	.024
Attempted Vaginal Sex	0.98	26.31 (6, 9444)	< .001	.016
Attempted Anal Sex	0.98	34.74 (6, 9444)	< .001	.022
NAQ Approach	0.99	19.44 (6, 9444)	< .001	.012
NAQ Avoidance	0.99	17.45 (6, 9444)	< .001	.011
Unwanted Touching x NAQ Approach	0.99	15.36 (6, 9444)	< .001	.010
Actual Oral Sex x NAQ Approach	0.99	11.61 (6, 9444)	< .001	.007
Actual Vaginal Sex x NAQ Approach	0.99	11.20 (6, 9444)	< .001	.007
Actual Anal Sex x NAQ Approach	0.99	15.26 (6, 9444)	< .001	.010
Attempted Oral Sex x NAQ Approach	0.99	8.24 (6, 9444)	< .001	.005
Attempted Vaginal Sex x NAQ Approach	0.99	18.10 (6, 9444)	< .001	.011
Attempted Anal Sex x NAQ Approach	0.99	18.07 (6, 9444)	< .001	.011
Unwanted Touching x NAQ Avoidance	0.99	18.86 (6, 9444)	< .001	.012

Table III.5. Continued

Variable	Wilks' λ	F (df)	*p*-value	η_p^2
Actual Oral Sex x NAQ Avoidance	0.99	15.16 (6, 9444)	< .001	.010
Actual Vaginal Sex x NAQ Avoidance	0.99	18.06 (6, 9444)	< .001	.011
Actual Anal Sex x NAQ Avoidance	0.96	59.99 (6, 9444)	< .001	.037
Attempted Oral Sex x NAQ Avoidance	0.99	20.88 (6, 9444)	< .001	.013
Attempted Vaginal Sex x NAQ Avoidance	0.99	16.60 (6, 9444)	< .001	.010
Attempted Anal Sex x NAQ Avoidance	0.98	33.83 (6, 9444)	< .001	.021

Notes: ADD/ADHD = Attention Deficit Disorder/Attention-Deficit Hyperactivity Disorder, NAQ = Need for Affect Questionnaire, x = interaction term, η_p^2 = partial eta squared.

All predictors were statistically significant at the multivariate level. All seven of the main effect for victimization satisfied the effect size cut off: unwanted touching, actual oral sex, actual vaginal sex, actual anal sex, attempted oral sex, attempted vaginal sex, and attempted anal sex. Both need for affect main effects satisfied effect size cut-off. The following victimization by emotion regulation interaction terms satisfied effect size cut-off: unwanted touching by NFA approach, actual anal sex by NFA approach, attempted vaginal sex by NFA approach, attempted anal sex by NFA approach, unwanted touching by NFA avoidance, actual oral sex by NFA avoidance, actual vaginal sex by NFA avoidance, actual anal sex by NFA avoidance, attempted oral sex by NFA avoidance, attempted vaginal sex by NFA avoidance and attempted anal sex by NFA avoidance.

Significant univariate effects meeting the effect size cut-off are listed by model (see Table III.6 for full model statistics for each mental health outcome). Regarding suicide risk, NFA avoidance displayed a small positive effect. Concerning weekly total drinks, unwanted touching victims displayed higher scores (small effect) compared to non-victims. Regarding PTSD, NFA avoidance displayed a moderate to large positive effect. Regarding depression, NFA avoidance displayed a moderate positive effect. Regarding anxiety, NFA avoidance displayed a moderate positive effect. Regarding stress, NFA avoidance displayed a small to moderate positive effect.

Table III.6.

Univariate Model Statistics for Victimization and Need for Affect Predicting Mental Health

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Alcohol Model					
Intercept	1.19 (0.02)	76.13	< .001	1.16 to 1.22	.380
Unwanted Touching	0.08 (0.01)	12.47	< .001	0.06 to 0.09	.016
Actual Oral Sex	-0.02 (0.01)	-2.78	< .01	-0.04 to -0.01	.001
Actual Vaginal Sex	-0.01 (0.01)	-0.96	.338	-0.03 to 0.01	.000
Actual Anal Sex	0.11 (0.02)	6.79	< .001	0.08 to 0.15	.005
Attempted Oral Sex	-0.06 (0.01)	-6.55	< .001	-0.08 to -0.04	.005
Attempted Vaginal Sex	0.03 (0.01)	2.41	< .05	0.00 to 0.05	.001
Attempted Anal Sex	-0.02 (0.01)	-1.16	.245	-0.04 to 0.01	.000
NFA Approach	-0.01 (0.00)	-5.52	< .001	-0.01 to 0.00	.003
NFA Avoidance	0.00 (0.00)	1.34	.181	0.00 to 0.01	.000
Unwanted Touching x NFA Approach	0.04 (0.01)	4.40	< .001	0.02 to 0.06	.002
Actual Oral Sex x NFA Approach	-0.02 (0.01)	-2.44	< .05	-0.04 to 0.00	.001
Actual Vaginal Sex x NFA Approach	0.05 (0.01)	3.00	< .01	0.02 to 0.08	.001
Actual Anal Sex x NFA Approach	0.08 (0.06)	1.44	.150	-0.03 to 0.20	.000
Attempted Oral Sex x NFA Approach	0.07 (0.01)	4.76	< .001	0.04 to 0.09	.002
Attempted Vaginal Sex x NFA Approach	0.01 (0.01)	0.60	.551	-0.02 to 0.03	.000
Attempted Anal Sex x NFA Approach	-0.28 (0.06)	-5.06	< .001	-0.39 to -0.17	.003
Unwanted Touching x NFA Avoidance	-0.03 (0.01)	-3.84	< .001	-0.05 to -0.01	.002
Actual Oral Sex x NFA Avoidance	0.03 (0.01)	3.93	< .001	0.02 to 0.05	.002
Actual Vaginal Sex x NFA Avoidance	-0.01 (0.01)	-0.50	.614	-0.03 to 0.02	.000
Actual Anal Sex x NFA Avoidance	0.00 (0.03)	-0.13	.894	-0.05 to 0.05	.000
Attempted Oral Sex x NFA Avoidance	0.10 (0.02)	5.94	< .001	0.07 to 0.14	.004
Attempted Vaginal Sex x NFA Avoidance	0.00 (0.01)	0.12	.903	-0.03 to 0.03	.000
Attempted Anal Sex x NFA Avoidance	-0.01 (0.02)	-0.43	.670	-0.05 to 0.03	.000
White	0.01 (0.00)	1.86	.063	0.00 to 0.02	.000
African American	-0.02 (0.00)	-4.89	< .001	-0.03 to -0.01	.003

Table III.6. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Asian/Pacific Islander	-0.02 (0.01)	-2.28	< .05	-0.03 to 0.00	.001
Heterosexual	0.03 (0.00)	5.78	< .001	0.02 to 0.04	.004
Bisexual	0.03 (0.01)	4.12	< .001	0.01 to 0.04	.002
Any Military Service	0.08 (0.01)	11.25	< .001	0.06 to 0.09	.013
Non-Hispanic	-0.02 (0.00)	-3.75	< .001	-0.03 to -0.01	.001
Non-Greek Life	-0.70 (0.00)	-15.49	< .001	-0.08 to -0.06	.025
Freshman	-0.01 (0.01)	-0.99	.323	-0.03 to 0.01	.000
Sophomore	0.06 (0.01)	5.33	< .001	0.04 to 0.08	.003
Junior	0.03 (0.01)	2.70	< .01	0.01 to 0.05	.001
Senior	0.07 (0.01)	6.20	< .001	0.05 to 0.09	.004
Graduate Student	0.08 (0.01)	7.27	< .001	0.06 to 0.10	.006
Off Campus Student	-0.03 (0.00)	-7.05	< .001	-0.03 to -0.02	.005
Visual Impairment	0.06 (0.00)	14.49	< .001	0.05 to 0.06	.022
ADHD/ADD	0.07 (0.00)	17.78	< .001	0.06 to 0.08	.032
Chronic Health Diagnosis	0.00 (0.00)	-0.90	.364	-0.02 to 0.01	.000
Psychological Diagnosis	0.04 (0.00)	10.55	< .001	0.04 to 0.05	.012
<u>Suicide Model</u>					
Intercept	11.51 (0.32)	35.61	< .001	10.88 to 12.14	.118
Unwanted Touching	-0.56 (0.13)	-4.42	< .001	-0.81 to -0.31	.002
Actual Oral Sex	-0.52 (0.16)	-3.28	< .01	-0.83 to -0.21	.001
Actual Vaginal Sex	0.88 (0.18)	4.86	< .001	0.53 to 1.24	.002
Actual Anal Sex	0.81 (0.35)	2.33	< .05	0.13 to 1.49	.001
Attempted Oral Sex	1.67 (0.18)	9.09	< .001	1.31 to 2.03	.009
Attempted Vaginal Sex	0.79 (0.23)	3.51	< .001	0.35 to 1.23	.001
Attempted Anal Sex	1.30 (0.29)	4.42	< .001	0.72 to 1.87	.002
NFA Approach	-0.27 (0.04)	-6.73	< .001	-0.35 to -0.19	.005
NFA Avoidance	0.52 (0.04)	13.55	< .001	0.44 to 0.59	.019
Unwanted Touching x NFA Approach	0.24 (0.19)	1.22	.224	-0.14 to 0.62	.000
Actual Oral Sex x NFA Approach	-0.04 (0.19)	-0.23	.815	-0.41 to 0.33	.000

Table III.6. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Actual Vaginal Sex x NFA Approach	-0.62 (0.32)	-1.94	.052	-1.25 to 0.00	.000
Actual Anal Sex x NFA Approach	-0.45 (1.21)	-0.37	.711	-2.82 to 1.92	.000
Attempted Oral Sex x NFA Approach	0.20 (0.29)	0.67	.503	-0.38 to 0.77	.000
Attempted Vaginal Sex x NFA Approach	0.72 (0.25)	2.82	< .01	0.22 to 1.22	.001
Attempted Anal Sex x NFA Approach	1.41 (1.15)	1.23	.218	-0.83 to 3.66	.000
Unwanted Touching x NFA Avoidance	-0.39 (0.18)	-2.17	< .05	-0.73 to -0.04	.000
Actual Oral Sex x NFA Avoidance	0.41 (0.18)	2.35	< .05	0.07 to 0.76	.001
Actual Vaginal Sex x NFA Avoidance	-0.49 (0.27)	-1.80	.071	-1.03 to 0.04	.000
Actual Anal Sex x NFA Avoidance	3.04 (0.54)	5.67	< .001	1.99 to 4.09	.003
Attempted Oral Sex x NFA Avoidance	-0.55 (0.36)	-1.52	.129	-1.27 to 0.16	.000
Attempted Vaginal Sex x NFA Avoidance	1.31 (0.29)	4.47	< .001	0.74 to 1.88	.002
Attempted Anal Sex x NFA Avoidance	-4.40 (0.47)	-9.38	< .001	-5.32 to -3.48	.009
White	-0.98 (0.08)	-11.64	< .001	-1.14 to -0.81	.014
African American	-0.82 (0.10)	-8.17	< .001	-0.99 to -0.61	.007
Asian/Pacific Islander	-1.44 (0.14)	-10.22	< .001	-1.71 to -1.16	.011
Heterosexual	-1.25 (0.10)	-12.56	< .001	-1.44 to -1.05	.016
Bisexual	1.31 (0.14)	9.66	< .001	1.05 to 1.58	.010
Any Military Service	0.67 (0.14)	4.72	< .001	0.39 to 0.95	.002
Non-Hispanic	0.42 (0.10)	4.33	< .001	0.23 to 0.61	.002
Non-Greek Life	0.81 (0.09)	8.83	< .001	0.63 to 1.00	.008
Freshman	-1.92 (0.23)	-8.26	< .001	-2.38 to -1.47	.007
Sophomore	-2.26 (0.23)	-9.69	< .001	-2.72 to -1.80	.010
Junior	-2.21 (0.23)	-9.68	< .001	-2.66 to -1.76	.010
Senior	-2.16 (0.23)	-9.54	< .001	-2.61 to -1.72	.010
Graduate Student	-2.30 (0.23)	-9.94	< .001	-2.75 to -1.84	.010
Off Campus Student	-0.06 (0.07)	-0.82	.411	-0.21 to 0.09	.000
Visual Impairment	0.09 (0.08)	1.17	.243	-0.09 to 0.25	.000
ADHD/ADD	0.23 (0.08)	2.73	< .05	0.06 to 0.40	.001
Chronic Health Diagnosis	0.51 (0.11)	4.51	< .001	0.29 to 0.73	.002
Psychological Diagnosis	1.68 (0.09)	18.85	< .001	1.50 to 1.85	.036

Table III.6. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
PTSD Model					
Intercept	62.53 (1.81)	34.61	< .001	58.98 to 66.07	.113
Unwanted Touching	-0.85 (0.70)	-1.21	.225	-2.23 to 0.52	.000
Actual Oral Sex	-5.75 (0.78)	-6.46	< .001	-7.50 to -4.00	.004
Actual Vaginal Sex	5.39 (1.02)	5.30	< .001	3.40 to 7.38	.003
Actual Anal Sex	15.52 (1.94)	8.01	< .001	11.72 to 19.32	.007
Attempted Oral Sex	6.19 (1.02)	6.04	< .001	4.18 to 8.20	.004
Attempted Vaginal Sex	4.73 (1.26)	3.75	< .001	2.26 to 7.20	.001
Attempted Anal Sex	-7.77 (1.64)	-4.73	< .001	-10.98 to -4.55	.002
NFA Approach	-0.36 (0.22)	-1.58	.113	-0.80 to 0.08	.000
NFA Avoidance	8.18 (0.21)	38.16	< .001	7.76 to 8.61	.134
Unwanted Touching x NFA Approach	0.96 (1.09)	0.88	.377	-1.17 to 3.09	.000
Actual Oral Sex x NFA Approach	-4.14 (1.05)	-3.92	< .001	-6.20 to -2.07	.002
Actual Vaginal Sex x NFA Approach	8.66 (1.79)	4.85	< .001	5.16 to 12.16	.002
Actual Anal Sex x NFA Approach	45.72 (6.76)	6.76	< .001	32.47 to 58.98	.005
Attempted Oral Sex x NFA Approach	-3.70 (1.64)	-2.25	< .05	-6.92 to -0.48	.001
Attempted Vaginal Sex x NFA Approach	-0.44 (1.43)	-0.31	.755	-3.24 to 2.35	.000
Attempted Anal Sex x NFA Approach	-37.43 (6.40)	-5.85	< .001	-49.98 to -24.88	.004
Unwanted Touching x NFA Avoidance	4.13 (0.99)	4.16	< .001	2.19 to 6.08	.002
Actual Oral Sex x NFA Avoidance	-4.57 (0.98)	-4.63	< .001	-6.50 to -2.63	.002
Actual Vaginal Sex x NFA Avoidance	-12.15 (1.52)	-7.97	< .001	-15.13 to -9.16	.007
Actual Anal Sex x NFA Avoidance	12.37 (3.00)	4.13	< .001	6.49 to 18.24	.002
Attempted Oral Sex x NFA Avoidance	-15.92 (2.04)	-7.81	< .001	-19.92 to -11.93	.006
Attempted Vaginal Sex x NFA Avoidance	7.84 (1.64)	4.78	< .001	6.43 to 11.05	.002
Attempted Anal Sex x NFA Avoidance	4.21 (2.62)	1.61	.108	-0.93 to 9.36	.000
White	-1.82 (0.47)	-3.87	< .001	-2.74 to -0.90	.002
African American	-1.01 (0.55)	-1.84	.066	-2.08 to 0.07	.000
Asian/Pacific Islander	-6.36 (0.79)	-8.01	< .001	-7.90 to -4.81	.007
Heterosexual	-2.95 (0.55)	-5.33	< .001	-4.04 to -1.87	.003

Table III.6. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Bisexual	4.44 (0.76)	5.84	< .001	2.95 to 5.94	.004
Any Military Service	2.94 (0.80)	3.68	< .001	1.37 to 4.50	.001
Non-Hispanic	0.95 (0.55)	1.75	.081	-0.12 to 2.02	.000
Non-Greek Life	-3.10 (0.51)	-6.05	< .001	-4.12 to -2.10	.004
Freshman	-1.32 (1.30)	-1.02	.309	-3.87 to 1.23	.000
Sophomore	3.00 (1.30)	2.30	< .05	0.44 to 5.56	.001
Junior	3.28 (1.28)	2.57	< .05	0.77 to 5.78	.001
Senior	2.89 (1.27)	2.28	< .05	0.41 to 5.38	.001
Graduate Student	-0.98 (1.29)	-0.76	.450	-3.51 to 1.55	.000
Off Campus Student	3.12 (0.43)	7.28	< .001	2.28 to 3.95	.006
Visual Impairment	0.59 (0.44)	1.35	.178	-0.27 to 1.46	.000
ADHD/ADD	4.41 (0.48)	9.27	< .001	3.48 to 5.34	.009
Chronic Health Diagnosis	6.49 (0.63)	10.25	< .001	5.25 to 7.72	.011
Psychological Diagnosis	11.56 (0.50)	23.26	< .001	10.59 to 12.53	.054
<u>Depression Model</u>					
Intercept	14.86 (.053)	27.81	< .001	13.82 to 15.91	.076
Unwanted Touching	-0.94 (0.21)	-4.50	< .001	-1.34 to -0.53	.002
Actual Oral Sex	0.64 (0.26)	2.43	< .05	0.12 to 1.16	.001
Actual Vaginal Sex	-0.87 (0.30)	-2.88	< .01	-1.45 to -0.28	.001
Actual Anal Sex	4.64 (0.57)	8.10	< .001	3.52 to 5.76	.007
Attempted Oral Sex	-0.14 (0.30)	-0.47	.636	-0.74 to 0.45	.000
Attempted Vaginal Sex	2.04 (0.37)	5.47	< .001	1.31 to 2.77	.003
Attempted Anal Sex	2.96 (0.48)	6.10	< .001	2.01 to 3.91	.004
NFA Approach	-0.60 (0.07)	-9.02	< .001	-0.73 to -0.47	.009
NFA Avoidance	1.89 (0.06)	29.75	< .001	1.76 to 2.01	.086
Unwanted Touching x NFA Approach	-1.03 (0.32)	-3.20	< .01	-1.66 to -0.40	.001
Actual Oral Sex x NFA Approach	0.51 (0.31)	1.62	.104	-0.10 to 1.12	.000
Actual Vaginal Sex x NFA Approach	-0.24 (0.53)	-0.46	.643	-1.28 to 0.79	.000
Actual Anal Sex x NFA Approach	8.09 (2.00)	4.05	< .001	4.17 to 12.01	.002

Table III.6. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Attempted Oral Sex x NFA Approach	-0.34 (0.49)	-0.69	.489	-1.29 to 0.62	.000
Attempted Vaginal Sex x NFA Approach	2.87 (0.42)	6.80	< .001	2.04 to 3.70	.005
Attempted Anal Sex x NFA Approach	-6.47 (1.89)	-3.41	< .01	-10.18 to -2.75	.001
Unwanted Touching x NFA Avoidance	-0.48 (0.29)	-1.63	.104	-1.05 to 0.10	.000
Actual Oral Sex x NFA Avoidance	-0.26 (0.29)	-0.88	.376	-0.83 to 0.31	.000
Actual Vaginal Sex x NFA Avoidance	-0.39 (0.45)	-0.86	.389	-1.27 to 0.49	.000
Actual Anal Sex x NFA Avoidance	-7.38 (0.89)	-8.33	< .001	-9.12 to -5.64	.007
Attempted Oral Sex x NFA Avoidance	-2.38 (0.60)	-3.94	< .001	-3.56 to 1.20	.002
Attempted Vaginal Sex x NFA Avoidance	3.30 (0.48)	6.80	< .001	2.35 to 4.25	.005
Attempted Anal Sex x NFA Avoidance	2.83 (0.78)	3.64	< .001	1.31 to 4.35	.001
White	-0.11 (0.14)	-0.80	.424	-0.38 to 0.16	.000
African American	-1.16 (0.16)	-7.17	< .001	-1.48 to -0.84	.005
Asian/Pacific Islander	-1.53 (0.23)	-6.57	< .001	-1.98 to -1.07	.005
Heterosexual	-2.52 (0.16)	-15.40	< .001	-2.85 to -2.20	.024
Bisexual	0.21 (0.22)	0.95	.343	-0.23 to 0.65	.000
Any Military Service	0.27 (0.24)	1.13	.257	-0.19 to 0.73	.000
Non-Hispanic	0.19 (0.16)	1.18	.238	-0.13 to 0.51	.000
Non-Greek Life	-0.11 (0.15)	-0.70	.483	-0.40 to 0.19	.000
Freshman	1.08 (0.39)	2.81	< .05	0.33 to 1.83	.001
Sophomore	1.71 (0.39)	4.44	< .001	0.96 to 2.47	.002
Junior	1.46 (0.38)	3.87	< .001	0.72 to 2.20	.002
Senior	1.49 (0.37)	3.99	< .001	0.76 to 2.23	.002
Graduate Student	0.17 (0.38)	0.44	.662	-0.58 to 0.91	.000
Off Campus Student	0.51 (0.13)	4.03	< .001	0.24 to 0.76	.002
Visual Impairment	0.34 (0.13)	2.60	< .01	0.08 to 0.60	.001
ADHD/ADD	-0.32 (0.14)	-2.27	< .05	-0.59 to -0.04	.001
Chronic Health Diagnosis	0.27 (0.19)	1.45	.148	-0.10 to 0.64	.000
Psychological Diagnosis	2.15 (0.15)	14.65	< .001	1.87 to 2.44	.022

Table III.6. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Anxiety Model					
Intercept	16.28 (0.43)	38.06	< .001	15.44 to 17.12	.133
Unwanted Touching	-0.29 (0.16)	-1.75	.079	-0.62 to 0.03	.000
Actual Oral Sex	-0.47 (0.21)	-2.21	< .05	-0.88 to -0.05	.001
Actual Vaginal Sex	-0.94 (0.24)	-3.90	< .001	-1.41 to -0.47	.002
Actual Anal Sex	2.40 (0.46)	5.24	< .001	1.50 to 3.30	.003
Attempted Oral Sex	0.73 (0.24)	3.00	< .01	0.25 to 1.20	.001
Attempted Vaginal Sex	-1.36 (0.30)	-4.55	< .001	-1.94 to -0.77	.002
Attempted Anal Sex	0.21 (0.39)	0.54	.589	-0.55 to 0.97	.000
NFA Approach	-0.38 (0.05)	-7.23	< .001	-0.49 to -0.28	.005
NFA Avoidance	1.30 (0.05)	25.54	< .001	1.20 to 1.40	.065
Unwanted Touching x NFA Approach	0.05 (0.26)	0.21	.834	-0.45 to 0.56	.000
Actual Oral Sex x NFA Approach	-0.25 (0.25)	-1.00	.319	-0.74 to 0.24	.000
Actual Vaginal Sex x NFA Approach	0.26 (0.42)	0.61	.541	-0.57 to 1.09	.000
Actual Anal Sex x NFA Approach	1.42 (1.60)	0.88	.374	-1.72 to 4.56	.000
Attempted Oral Sex x NFA Approach	0.29 (0.39)	0.74	.460	-0.47 to 1.05	.000
Attempted Vaginal Sex x NFA Approach	0.01 (0.34)	0.02	.979	-0.65 to 0.67	.000
Attempted Anal Sex x NFA Approach	-2.57 (1.52)	-1.69	.090	-5.54 to 0.40	.000
Unwanted Touching x NFA Avoidance	1.14 (0.23)	4.84	< .001	0.68 to 1.60	.002
Actual Oral Sex x NFA Avoidance	-1.23 (0.23)	-5.27	< .001	-1.69 to -0.77	.003
Actual Vaginal Sex x NFA Avoidance	-1.62 (0.36)	-4.50	< .001	-2.33 to -0.92	.002
Actual Anal Sex x NFA Avoidance	1.48 (0.71)	2.09	< .05	0.09 to 2.87	.000
Attempted Oral Sex x NFA Avoidance	-1.41 (0.48)	-2.92	< .01	-2.36 to -0.47	.001
Attempted Vaginal Sex x NFA Avoidance	0.78 (0.39)	2.01	< .05	0.02 to 1.54	.000
Attempted Anal Sex x NFA Avoidance	-0.41 (0.62)	-0.66	< .506	-1.63 to 0.80	.000
White	0.23 (0.11)	2.03	< .05	0.01 to 0.44	.000
African American	-0.46 (0.13)	-3.61	< .001	-0.72 to -0.21	.001
Asian/Pacific Islander	.012 (0.19)	0.62	.535	-0.25 to 0.48	.000
Heterosexual	-0.48 (0.13)	-3.67	< .001	-0.74 to -0.22	.001

Table III.6. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Bisexual	1.90 (0.18)	10.57	< .001	1.55 to 2.26	.012
Any Military Service	-1.22 (0.19)	-6.46	< .001	-1.59 to -0.85	.004
Non-Hispanic	0.14 (0.13)	1.10	.272	-0.11 to 0.39	.000
Non-Greek Life	-0.51 (0.12)	-4.20	< .001	-0.75 to -0.27	.002
Freshman	0.16 (0.31)	0.53	.596	-0.44 to 0.77	.000
Sophomore	0.10 (0.31)	0.31	.753	-0.51 to 0.70	.000
Junior	0.69 (0.30)	2.27	< .05	0.95 to 1.28	.001
Senior	-0.04 (0.30)	-0.13	.897	-0.63 to 0.55	.000
Graduate Student	-1.51 (0.31)	-4.93	< .001	-2.11 to -0.91	.003
Off Campus Student	0.65 (0.10)	6.47	< .001	0.46 to 0.85	.004
Visual Impairment	0.60 (0.10)	5.79	< .001	0.40 to 0.81	.004
ADHD/ADD	0.57 (0.11)	5.06	< .001	0.35 to 0.79	.003
Chronic Health Diagnosis	2.09 (0.15)	13.99	< .001	1.80 to 2.39	.020
Psychological Diagnosis	2.38 (0.12)	20.27	< .001	2.15 to 2.61	.042
<u>Stress Model</u>					
Intercept	17.82 (0.52)	34.44	< .001	16.80 to 18.83	.112
Unwanted Touching	0.06 (0.20)	0.28	.774	-0.34 to 0.45	.000
Actual Oral Sex	-0.46 (0.25)	-1.79	.074	-0.95 to 0.04	.000
Actual Vaginal Sex	-0.51 (0.29)	-1.75	.080	-1.08 to 0.06	.000
Actual Anal Sex	1.05 (0.55)	1.89	.058	-0.03 to 2.14	.000
Attempted Oral Sex	0.09 (0.29)	0.31	.753	-0.48 to 0.67	.000
Attempted Vaginal Sex	-0.11 (0.36)	-0.30	.766	-0.82 to 0.60	.000
Attempted Anal Sex	1.28 (0.47)	2.73	< .01	0.36 to 2.20	.001
NFA Approach	-0.20 (0.06)	-3.10	< .01	-0.32 to -0.07	.001
NFA Avoidance	1.31 (0.06)	21.28	< .001	1.19 to 1.43	.046
Unwanted Touching x NFA Approach	-1.22 (0.31)	-3.92	< .001	-1.83 to -0.61	.002
Actual Oral Sex x NFA Approach	0.37 (0.30)	1.24	.214	-0.22 to 0.97	.000
Actual Vaginal Sex x NFA Approach	0.98 (0.51)	1.92	.055	-0.02 to 1.98	.000
Actual Anal Sex x NFA Approach	1.74 (1.94)	0.90	.370	-2.06 to 5.53	.000

Table III.6. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Attempted Oral Sex x NFA Approach	-0.99 (0.47)	-2.10	< .05	-1.91 to -0.06	.000
Attempted Vaginal Sex x NFA Approach	1.23 (0.41)	3.00	< .01	0.43 to 2.03	.001
Attempted Anal Sex x NFA Approach	0.38 (1.83)	0.20	.838	-3.22 to 3.97	.000
Unwanted Touching x NFA Avoidance	0.21 (0.28)	0.73	.464	-0.35 to 0.77	.000
Actual Oral Sex x NFA Avoidance	-0.42 (0.28)	-1.50	.134	-0.98 to 0.13	.000
Actual Vaginal Sex x NFA Avoidance	-2.37 (0.44)	-5.44	< .001	-3.23 to -1.52	.003
Actual Anal Sex x NFA Avoidance	0.32 (0.86)	0.37	.711	-1.36 to 2.00	.000
Attempted Oral Sex x NFA Avoidance	-3.66 (0.58)	-6.27	< .001	-4.80 to -2.51	.004
Attempted Vaginal Sex x NFA Avoidance	3.51 (0.47)	7.47	< .001	2.59 to 4.43	.006
Attempted Anal Sex x NFA Avoidance	2.42 (0.75)	3.22	< .01	0.95 to 3.90	.001
White	0.33 (0.13)	2.47	< .05	0.07 to 0.60	.001
African American	-0.44 (0.16)	-2.81	< .01	-0.75 to -0.13	.001
Asian/Pacific Islander	0.03 (0.22)	0.13	.894	-0.41 to 0.47	.000
Heterosexual	-2.37 (0.16)	-14.94	< .001	-2.68 to -2.06	.023
Bisexual	0.06 (0.22)	0.25	.796	-0.37 to 0.48	.000
Any Military Service	-0.87 (0.23)	-3.82	< .001	-1.32 to -0.42	.002
Non-Hispanic	-0.24 (0.16)	-1.56	.118	-0.55 to 0.06	.000
Non-Greek Life	-0.65 (0.15)	-4.43	< .001	-0.94 to -0.36	.002
Freshman	1.48 (0.37)	3.98	< .001	0.75 to 2.21	.002
Sophomore	1.81 (0.37)	4.85	< .001	1.08 to 2.54	.002
Junior	2.29 (0.36)	6.25	< .001	1.57 to 3.00	.004
Senior	2.37 (0.36)	6.53	< .001	1.66 to 3.09	.005
Graduate Student	0.17 (0.37)	0.47	.641	-0.55 to 0.90	.000
Off Campus Student	1.31 (0.12)	10.70	< .001	1.07 to 1.55	.012
Visual Impairment	0.00 (0.13)	0.00	.997	-0.25 to 0.25	.000
ADHD/ADD	0.72 (0.14)	5.31	< .001	0.46 to 1.00	.003
Chronic Health Diagnosis	1.41 (0.18)	7.76	< .001	1.05 to 1.76	.006
Psychological Diagnosis	2.86 (0.14)	20.32	< .001	2.61 to 3.17	.042

Notes: Reference groups for demographics were Other/multi-racial (race), Gay/Lesbian/Queer+ (sexual orientation), non-military service (military status), Hispanic (ethnicity), Greek Life student (Greek life involvement), Other student status (year in school), on campus (residence), non-impaired (for all health conditions). NFA = need for affect, *B* = regression coefficient; SE = standard error; CI = confidence interval; η_p^2 = partial eta squared.

Health Service Use Hypothesis Testing

Hypotheses 5 through 8 were tested using a series of mGLM and logistic regression analyses. A series of mGLMs (one including emotion regulation and one including need for affect) were used to test the willingness to use health services use whereas a series of logistic regressions were used to test actual use of health services (i.e., no/yes). Due to the large number of analyses, an effect size cut-off of 0.01 was used to identify multivariate effects for variables of interest (i.e., non-covariates) requiring further univariate inspection (i.e., only significant univariate effects are emphasized). Univariate effect reporting is guided by the same effect size cut-off as well. Interpretation of partial eta-squared effect sizes were based on the following guidelines: 0.01 is small, 0.06 is medium, and 0.14 is large (Field, 2013).

To test willingness to use health services in hypotheses 5 through 7 (i.e., those concerning emotion regulation), the following variables were entered into the mGLM model: (1) set of criterion measures (i.e., ODUCC willingness, ODUHS willingness, ODUWC willingness and off-campus willingness), (2) covariate predictors of race, ethnicity, year in school, campus housing, self-reported ADD/ADHD diagnosis, self-reported chronic health condition, self-reported psychiatric/psychological condition and military service (3) main effects for victimization (i.e., total of 7), (4) main effects for all mental health variables (i.e., total of 6), (5) main effects for ERQ reappraisal and ERQ suppression, and (6) all two-way interaction terms of an ERQ subscale by victimization (i.e., 14 total interaction terms). Multivariate effects for predictors of interest (i.e., victimization, mental health, and emotion regulation) satisfying effect size cut-offs are noted; univariate effects possessing effect sizes above cut-off ranges are only reported for those predictors where the multivariate criteria were satisfied (i.e., multivariate test

serves as an omnibus test). Demographic effects are not reported (see preliminary analyses for patterns of demographic-outcome variable associations).

Demographic variables demonstrating significant multivariate association with willingness to use health services, were year in school, self-reported ADD/ADHD diagnosis, self-reported chronic health condition, self-reported psychiatric/psychological condition and military service. Table III.7 shows the multivariate statistics for the mGLM of victimization and emotion regulation predicting willingness to use health services.

Table III.7.

Multivariate Tests for Emotion Regulation mGLM Model Predicting Willingness to Use Health Services

Variable	Wilks' λ	F (df)	*p*-value	η_p^2
Age	0.99	16.29 (4, 9396)	< .001	.007
Race	0.98	16.09 (12, 24859.77)	< .001	.007
Ethnicity	0.99	14.256 (4, 9396)	< .001	.006
Military Status	0.97	77.78 (4, 9396)	< .001	.032
School Year	0.93	35.99 (20, 31163.96)	< .001	.019
Campus Housing	1.00	5.32 (4, 9396)	< .001	.002
ADD/ADHD Diagnosis	0.97	66.70 (4, 9396)	< .001	.028
Chronic Health Condition	0.96	92.90 (4, 9396)	< .001	.038
Psychiatric/Psychological Condition	0.98	58.44 (4, 9396)	< .001	.024
Total Weekly Drinks	0.97	66.25 (4, 9396)	< .001	.027
Depression	0.97	63.81 (4, 9396)	< .001	.026
Anxiety	0.99	29.00 (4, 9396)	< .001	.012
Stress	0.98	45.51 (4, 9396)	< .001	.019
PTSD	0.98	37.62 (4, 9396)	< .001	.016
Suicide Risk	0.99	32.02 (4, 9396)	< .001	.013
Unwanted Touching	0.99	27.94 (4, 9396)	< .001	.012
Actual Oral Sex	0.99	19.88 (4, 9396)	< .001	.008
Actual Vaginal Sex	0.98	6.30 (4, 9396)	< .001	.003
Actual Anal Sex	1.00	3.22 (4, 9396)	< .001	.001
Attempted Oral Sex	0.99	33.85 (4, 9396)	< .001	.014
Attempted Vaginal Sex	0.96	88.22 (4, 9396)	< .001	.036
Attempted Anal Sex	1.00	2.95 (4, 9396)	< .001	.001
ERQ Reappraisal	0.99	22.83 (4, 9396)	< .001	.010
ERQ Suppression	0.99	26.28 (4, 9396)	< .001	.011
Unwanted Touching x ERQ Reappraisal	0.99	25.53 (4, 9396)	< .001	.011
Actual Oral Sex x ERQ Reappraisal	0.99	25.10 (4, 9396)	< .001	.011
Actual Vaginal Sex x ERQ Reappraisal	0.99	22.81 (4, 9396)	< .001	.010
Actual Anal Sex x ERQ Reappraisal	1.00	5.45 (4, 9396)	< .001	.002

Table III.7. Continued

Variable	Wilks' λ	F (df)	*p*-value	η_p^2
Attempted Oral Sex x ERQ Reappraisal	0.98	47.45 (4, 9396)	< .001	.020
Attempted Vaginal Sex x ERQ Reappraisal	0.98	35.58 (4, 9396)	< .001	.015
Attempted Anal Sex x ERQ Reappraisal	0.99	20.67 (4, 9396)	< .001	.009
Unwanted Touching x ERQ Suppression	0.99	28.19 (4, 9396)	< .001	.012
Actual Oral Sex x ERQ Suppression	0.99	20.22 (4, 9396)	< .001	.009
Actual Vaginal Sex x ERQ Suppression	0.99	12.92 (4, 9396)	< .001	.005
Actual Anal Sex x ERQ Suppression	0.99	23.17 (4, 9396)	< .001	.010
Attempted Oral Sex x ERQ Suppression	0.99	19.43 (4, 9396)	< .001	.008
Attempted Vaginal Sex x ERQ Suppression	0.98	49.18 (4, 9396)	< .001	.021
Attempted Anal Sex x ERQ Suppression	1.00	7.46 (4, 9396)	< .001	.003

Notes: ADD/ADHD = Attention Deficit Disorder/Attention-Deficit Hyperactivity Disorder, ERQ = emotion regulation questionnaire, PTSD = post-traumatic stress disorder, x = interaction term, η_p^2 = partial eta squared.

All predictors were statistically significant at the multivariate level. Three of seven main effects of victimization satisfied the effect size cut off: unwanted touching, attempted oral sex and attempted vaginal sex. All six main effects of mental health satisfied the effect size cut off: total weekly drinks, depression, anxiety, stress, PTSD, and suicide risk. Both emotion regulation main effects satisfied effect size cut-off. The following victimization by emotion regulation interaction terms satisfied effect size cut-off: unwanted touching by emotion reappraisal, attempted oral sex by reappraisal, attempted vaginal sex by emotion reappraisal, attempted anal sex by emotion reappraisal, actual vaginal sex by emotion suppression, actual anal sex by emotional suppression, attempted vaginal sex by emotion suppression, and attempted anal sex by emotional suppression.

Significant univariate effects are listed by health service willingness model (see Table III.8 for full model statistics for each willingness to use outcome). Regarding the ODU Counseling Center (ODUCC), victims of attempted vaginal sex were less willing to use counseling services (small effect) compared to non-victims. Depression and anxiety displayed a small negative effect, suggesting that victims with higher depression and anxiety scores were less willing to use counseling services. Stress displayed a small positive effect suggesting that higher stress scores were related to higher willingness to use counseling services. Cognitive reappraisal displayed a small positive effect, indicating those with better coping skills were more willing to use counseling services.

Table III.8.

Univariate Model Statistics for Victimization and Emotion Regulation Predicting Willingness to Use Health Services

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
ODU Counseling Center Model					
Intercept	5.41 (0.20)	27.14	< .001	5.02 to 5.80	.073
Unwanted Touching	-0.47 (0.08)	-6.17	< .001	-0.62 to -0.32	.004
Actual Oral Sex	0.17 (0.09)	1.98	< .05	0.00 to 0.34	.000
Actual Vaginal Sex	-0.13 (0.12)	-1.07	.285	-0.36 to 0.10	.000
Actual Anal Sex	0.41 (0.21)	1.94	.053	0.00 to 0.82	.000
Attempted Oral Sex	0.59 (0.12)	4.79	< .001	0.35 to 0.83	.002
Attempted Vaginal Sex	-2.24 (0.14)	-15.63	< .001	-2.53 to -1.96	.025
Attempted Anal Sex	0.19 (0.19)	0.99	.324	-0.19 to 0.58	.000
Age	0.01 (0.02)	0.55	.581	-0.03 to 0.06	.000
Total Weekly Drinks	0.16 (0.02)	8.10	< .001	-0.03 to 0.06	.007
Depression	-0.46 (0.03)	-13.57	< .001	-0.52 to -0.39	.019
Anxiety	-0.32 (0.03)	-9.60	< .001	-0.39 to -0.26	.010
Stress	0.39 (0.04)	11.11	< .001	0.33 to 0.46	.013
PTSD	0.31 (0.03)	9.21	< .001	0.24 to 0.37	.009
Suicide Risk	-0.20 (0.02)	-8.39	< .001	-0.25 to -0.15	.007
Cognitive Reappraisal	0.26 (0.02)	11.86	< .001	0.22 to 0.30	.015
Emotion Suppression	-0.18 (0.02)	-7.72	< .001	-0.22 to -0.13	.006
Unwanted Touching x ERQ Reappraisal	0.75 (0.09)	8.55	< .001	0.58 to 0.92	.008
Actual Oral Sex x ERQ Reappraisal	-0.56 (0.09)	-6.29	< .001	-0.73 to -0.39	.004
Actual Vaginal Sex x ERQ Reappraisal	0.16 (0.13)	1.32	.188	-0.08 to 0.41	.000
Actual Anal Sex x ERQ Reappraisal	-0.28 (0.19)	-1.44	.151	-0.65 to 0.10	.000
Attempted Oral Sex x ERQ Reappraisal	0.15 (0.14)	1.05	.292	-0.13 to 0.43	.000
Attempted Vaginal Sex x ERQ Reappraisal	-0.35 (0.13)	-2.72	< .01	-0.60 to -0.10	.001
Attempted Anal Sex x ERQ Reappraisal	-1.62 (0.25)	-6.57	< .001	-2.10 to -1.14	.005
Unwanted Touching x ERQ Suppression	-0.14 (0.08)	-1.75	.081	-0.31 to 0.02	.000
Actual Oral Sex x ERQ Suppression	0.00 (0.09)	0.03	.979	-0.17 to 0.17	.000

Table III.8. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Actual Vaginal Sex x ERQ Suppression	0.20 (0.10)	2.00	< .05	0.00 to 0.40	.000
Actual Anal Sex x ERQ Suppression	-0.81 (0.21)	-3.78	< .001	-1.23 to -0.39	.002
Attempted Oral Sex x ERQ Suppression	-0.31 (0.12)	-2.51	< .05	-0.55 to -0.07	.001
Attempted Vaginal Sex x ERQ Suppression	1.43 (0.14)	10.10	< .001	1.15 to 1.71	.011
Attempted Anal Sex x ERQ Suppression	0.84 (0.21)	4.06	< .001	0.44 to 1.25	.002
White	0.13 (0.05)	2.37	< .05	0.02 to 0.24	.001
African American	-0.31 (0.06)	-4.94	< .001	-0.43 to -0.19	.003
Asian/Pacific Islander	-0.34 (0.09)	-3.73	< .001	-0.52 to -0.16	.001
Non-Hispanic	0.00 (0.06)	0.05	.959	-0.12 to 0.13	.000
Military Service	-0.15 (0.10)	-1.54	.123	-0.35 to 0.04	.000
Freshman	-0.75 (0.15)	-4.86	< .001	-1.06 to -0.45	.003
Sophomore	-1.10 (0.16)	-7.04	< .001	-1.40 to -0.79	.005
Junior	-0.83 (0.15)	-5.43	< .001	-1.12 to -0.53	.003
Senior	-0.93 (0.15)	-6.11	< .001	-1.22 to -0.63	.004
Graduate Student	-1.26 (0.15)	-8,15	< .001	-1.56 to -0.95	.007
Off Campus Student	-0.17 (0.05)	-3.42	< .01	-0.27 to -0.07	.001
ADHD/ADD	-0.52 (0.06)	-8.98	< .001	-0.64 to -0.41	.009
Chronic Health Diagnosis	-0.32 (0.08)	-4.18	< .001	-0.47 to -0.17	.002
Psychological Diagnosis	0.06 (0.06)	0.96	.337	-0.06 to 0.17	.000
<u>ODU Health Services Model</u>					
Intercept	5.85 (0.19)	30.28	< .001	5.47 to 6.23	.089
Unwanted Touching	-0.34 (0.07)	-4.70	< .001	-0.49 to -0.20	.002
Actual Oral Sex	-0.05 (0.08)	-0.58	.560	-0.21 to 0.11	.000
Actual Vaginal Sex	-0.38 (0.11)	-3.31	< .01	-0.60 to -0.15	.001
Actual Anal Sex	0.49 (0.20)	2.39	< .05	0.09 to 0.89	.001
Attempted Oral Sex	0.74 (0.12)	6.18	< .001	0.50 to 0.97	.004
Attempted Vaginal Sex	-1.51 (0.14)	-10.87	< .001	-1.78 to -1.24	.012
Attempted Anal Sex	0.59 (0.19)	3.09	< .01	0.21 to 0.96	.001
Age	-0.10 (0.02)	-4.64	< .001	-0.15 to -0.06	.002

Table III.8. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Total Weekly Drinks	0.28 (0.02)	14.34	< .001	0.24 to 0.32	.021
Depression	-0.21 (0.03)	-6.55	< .001	-0.28 to -0.15	.005
Anxiety	-0.10 (0.03)	-3.15	< .01	-0.17 to -0.04	.001
Stress	0.26 (0.03)	7.44	< .001	0.19 to 0.32	.006
PTSD	0.05 (0.03)	1.47	.142	-0.02 to 0.11	.000
Suicide Risk	-0.24 (0.02)	-10.21	< .001	-0.28 to -0.19	.011
Cognitive Reappraisal	0.27 (0.02)	12.81	< .001	0.23 to 0.32	.017
Emotion Suppression	-0.32 (0.02)	-14.26	< .001	-0.36 to -0.27	.021
Unwanted Touching x ERQ Reappraisal	0.82 (0.08)	9.64	< .001	0.65 to 0.99	.010
Actual Oral Sex x ERQ Reappraisal	-0.73 (0.09)	-8.50	< .001	-0.90 to -0.54	.008
Actual Vaginal Sex x ERQ Reappraisal	0.21 (0.12)	1.74	.083	-0.03 to 0.45	.000
Actual Anal Sex x ERQ Reappraisal	-0.65 (0.19)	-3.50	< .001	-1.02 to -0.29	.001
Attempted Oral Sex x ERQ Reappraisal	-0.67 (0.14)	-4.87	< .001	-0.94 to -0.40	.003
Attempted Vaginal Sex x ERQ Reappraisal	0.57 (0.12)	4.56	< .001	0.32 to 0.81	.002
Attempted Anal Sex x ERQ Reappraisal	-0.44 (0.24)	-1.85	.065	-0.91 to 0.03	.000
Unwanted Touching x ERQ Suppression	0.10 (0.08)	1.21	.227	-0.06 to 0.25	.000
Actual Oral Sex x ERQ Suppression	0.18 (0.09)	2.05	< .05	0.01 to 0.34	.000
Actual Vaginal Sex x ERQ Suppression	-0.36 (0.10)	-3.61	< .001	-0.55 to -0.16	.001
Actual Anal Sex x ERQ Suppression	-1.03 (0.21)	-4.98	< .001	-1.44 to -0.63	.003
Attempted Oral Sex x ERQ Suppression	-0.03 (0.12)	-0.22	.825	-0.26 to 0.21	.000
Attempted Vaginal Sex x ERQ Suppression	1.41 (0.14)	10.30	< .001	1.15 to 1.68	.011
Attempted Anal Sex x ERQ Suppression	0.69 (0.20)	3.43	< .01	0.30 to 1.09	.001
White	0.06 (0.05)	1.10	.271	-0.05 to 0.16	.000
African American	-0.06 (0.06)	-1.02	.307	-0.18 to 0.06	.000
Asian/Pacific Islander	0.11 (0.09)	1.20	.232	-0.07 to 0.28	.000
Non-Hispanic	0.12 (0.06)	1.97	< .05	0.00 to 0.24	.000
Military Service	-1.35 (0.10)	-14.15	< .001	-1.54 to -1.17	.021
Freshman	-0.72 (0.15)	-4.81	< .001	-1.02 to -0.43	.002
Sophomore	-0.64 (0.15)	-4.22	< .001	-0.93 to 0.34	.002
Junior	-0.98 (0.15)	-6.61	< .001	-1.27 to -0.69	.005

Table III.8. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Senior	-0.68 (0.15)	-4.60	< .001	-0.96 to -0.39	.002
Graduate Student	-0.52 (0.15)	-3.43	< .01	-0.81 to -0.22	.001
Off Campus Student	-0.21 (0.05)	-4.23	< .001	-0.30 to -0.11	.002
ADHD/ADD	-0.65 (0.05)	-11.51	< .001	-0.76 to -0.54	.014
Chronic Health Diagnosis	-0.22 (0.07)	-3.04	< .01	-0.37 to -0.08	.001
Psychological Diagnosis	0.61 (0.06)	10.57	< .001	0.50 to 0.73	.012
ODU Women's Center Model					
Intercept	5.51 (0.20)	28.12	< .001	5.12 to 5.89	.078
Unwanted Touching	-0.09 (0.07)	-1.23	.218	-0.24 to 0.05	.000
Actual Oral Sex	-0.22 (0.08)	-2.61	< .01	-0.38 to -0.05	.001
Actual Vaginal Sex	-0.23 (0.12)	-2.02	< .05	-0.46 to -0.01	.000
Actual Anal Sex	0.06 (0.21)	0.28	.779	-0.35 to 0.46	.000
Attempted Oral Sex	1.10 (0.12)	9.06	< .001	0.86 to 1.34	.009
Attempted Vaginal Sex	-1.67 (0.14)	-11.83	< .001	-1.95 to -1.39	.015
Attempted Anal Sex	0.40 (0.19)	2.09	< .05	0.02 to 0.78	.000
Age	0.02 (0.02)	0.94	.348	-0.02 to 0.07	.000
Total Weekly Drinks	0.11 (0.02)	5.53	< .001	0.07 to 0.15	.003
Depression	-0.44 (0.03)	-13.20	< .001	-0.50 to -0.37	.018
Anxiety	-0.22 (0.03)	-6.65	< .001	-0.28 to -0.15	.005
Stress	-0.26 (0.03)	7.39	< .001	0.19 to 0.38	.006
PTSD	-0.23 (0.03)	6.91	< .001	0.16 to 0.29	.005
Suicide Risk	-0.14 (0.02)	-5.78	< .001	-0.18 to -0.09	.004
Cognitive Reappraisal	0.34 (0.02)	15.77	< .001	0.30 to 0.38	.026
Emotion Suppression	-0.33 (0.02)	-14.51	< .001	-0.37 to -0.28	.022
Unwanted Touching x ERQ Reappraisal	0.69 (0.09)	7.97	< .001	0.52 to 0.86	.007
Actual Oral Sex x ERQ Reappraisal	-0.83 (0.09)	-9.51	< .001	-1.00 to -0.66	.010
Actual Vaginal Sex x ERQ Reappraisal	0.25 (0.12)	2.04	< .05	0.01 to 0.49	.000
Actual Anal Sex x ERQ Reappraisal	-0.06 (0.19)	-0.34	.736	-0.44 to 0.31	.000
Attempted Oral Sex x ERQ Reappraisal	-0.14 (0.14)	-1.01	.311	-0.42 to 0.13	.000

Table III.8. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Attempted Vaginal Sex x ERQ Reappraisal	0.20 (0.13)	1.59	.111	-0.05 to 0.45	.000
Attempted Anal Sex x ERQ Reappraisal	-1.00 (0.24)	-4.11	< .001	-1.47 to -0.52	.002
Unwanted Touching x ERQ Suppression	0.34 (0.08)	4.22	< .001	0.18 to 0.50	.002
Actual Oral Sex x ERQ Suppression	-0.16 (0.09)	-1.85	.065	-0.33 to 0.01	.000
Actual Vaginal Sex x ERQ Suppression	-0.25 (0.10)	-2.47	< .01	-0.45 to -0.05	.001
Actual Anal Sex x ERQ Suppression	-1.80 (0.21)	-8.58	< .001	-2.21 to -1.39	.008
Attempted Oral Sex x ERQ Suppression	-0.41 (0.12)	-3.41	< .01	-0.65 to -0.17	.001
Attempted Vaginal Sex x ERQ Suppression	1.45 (0.14)	10.42	< .001	1.18 to 1.72	.011
Attempted Anal Sex x ERQ Suppression	1.09 (0.20)	5.34	< .001	0.69 to 1.49	.003
White	0.15 (0.05)	2.70	< .01	0.04 to 0.25	.001
African American	0.00 (0.06)	0.09	.930	-0.12 to -0.13	.000
Asian/Pacific Islander	0.09 (0.09)	0.95	.340	-0.09 to 0.26	.000
Non-Hispanic	-0.10 (0.06)	-1.68	.093	-0.23 (0.02)	.000
Military Service	-0.85 (0.10)	-8.79	< .001	-1.04 to -0.66	.008
Freshman	-0.72 (0.15)	-4.73	< .001	-1.02 to -0.42	.002
Sophomore	-0.70 (0.15)	-4.56	< .001	-1.00 to -0.40	.002
Junior	-1.11 (0.15)	-7.40	< .001	-1.40 to -0.82	.006
Senior	-0.84 (0.15)	-5.68	< .001	-1.14 to -0.55	.003
Graduate Student	-0.89 (0.15)	-5.85	< .001	-1.18 to -0.59	.004
Off Campus Student	-0.19 (0.05)	-3.87	< .001	-0.29 to -0.09	.002
ADHD/ADD	-0.75 (0.06)	-13.20	< .001	-0.87 to -0.64	.018
Chronic Health Diagnosis	-0.28 (0.07)	-3.79	< .001	-0.43 to -0.14	.002
Psychological Diagnosis	0.53 (0.06)	9.00	< .001	0.41 to 0.64	.009
<u>Off Campus Services Model</u>					
Intercept	6.56 (0.20)	32.38	< .001	6.16 to 6.95	.100
Unwanted Touching	0.29 (0.08)	3.73	< .001	0.14 to 0.44	.001
Actual Oral Sex	-0.57 (0.09)	-6.51	< .001	-0.74 to -0.39	.004
Actual Vaginal Sex	-0.51 (0.12)	-4.26	< .001	-0.74 to -0.27	.002
Actual Anal Sex	-0.30 (0.21)	1.38	.168	-0.12 to -0.72	.000

Table III.8. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Attempted Oral Sex	-0.05 (0.12)	-0.39	.700	-0.29 to 0.20	.000
Attempted Vaginal Sex	0.05 (0.15)	0.35	.728	-0.23 to 0.34	.000
Attempted Anal Sex	0.22 (0.20)	1.09	.274	-0.17 to 0.61	.000
Age	0.01 (0.02)	0.52	.601	-0.03 to 0.06	.000
Total Weekly Drinks	0.05 (0.02)	2.31	< .05	0.01 to 0.09	.001
Depression	-0.23 (0.03)	-6.76	< .001	-0.30 to -0.16	.005
Anxiety	-0.10 (0.03)	-2.96	< .01	-0.17 to -0.03	.001
Stress	-0.04 (0.04)	-0.99	.322	-0.11 to 0.03	.000
PTSD	0.03 (0.03)	1.04	.297	-0.03 to 0.10	.000
Suicide Risk	-0.6 (0.02)	-2.56	< .05	-0.11 to -0.01	.001
Cognitive Reappraisal	0.27 (0.02)	11.85	< .001	0.22 to 0.31	.015
Emotion Suppression	-0.11 (0.02)	-4.71	< .001	-0.15 to -0.06	.002
Unwanted Touching x ERQ Reappraisal	0.51 (0.09)	5.68	< .001	0.33 to 0.68	.003
Actual Oral Sex x ERQ Reappraisal	-0.65 (0.09)	-7.19	< .001	-0.83 to -0.47	.005
Actual Vaginal Sex x ERQ Reappraisal	-0.79 (0.13)	-6.17	< .001	-1.04 to -0.54	.004
Actual Anal Sex x ERQ Reappraisal	-0.21 (0.20)	-1.07	.284	-0.59 to -0.17	.000
Attempted Oral Sex x ERQ Reappraisal	1.16 (0.14)	8.03	< .001	0.88 to 1.45	.007
Attempted Vaginal Sex x ERQ Reappraisal	-0.67 (0.13)	-5.15	< .001	-0.93 to -0.42	.003
Attempted Anal Sex x ERQ Reappraisal	0.43 (0.25)	1.72	.085	-0.06 to 0.92	.000
Unwanted Touching x ERQ Suppression	0.66 (0.08)	7.79	< .001	0.49 to 0.82	.006
Actual Oral Sex x ERQ Suppression	-0.57 (0.09)	-6.33	< .001	-0.74 to 0.39	.004
Actual Vaginal Sex x ERQ Suppression	-0.13 (0.10)	-1.27	.203	-0.34 to 0.07	.000
Actual Anal Sex x ERQ Suppression	-0.47 (0.22)	-2.16	< .05	-0.90 to -0.04	.000
Attempted Oral Sex x ERQ Suppression	0.52 (0.12)	4.20	< .001	0.28 to 0.77	.002
Attempted Vaginal Sex x ERQ Suppression	0.07 (0.14)	0.50	.619	-0.21 to 0.35	.000
Attempted Anal Sex x ERQ Suppression	0.55 (0.21)	2.62	< .01	0.14 to 0.97	.001
White	0.12 (0.06)	2.10	< .05	0.01 to 0.23	.000
African American	-0.28 (0.06)	-4.36	< .001	-0.40 to -0.15	.002
Asian/Pacific Islander	0.00 (0.09)	0.04	.964	-0.18 to 0.19	.000
Non-Hispanic	0.27 (0.06)	4.22	< .001	0.15 to 0.40	.002

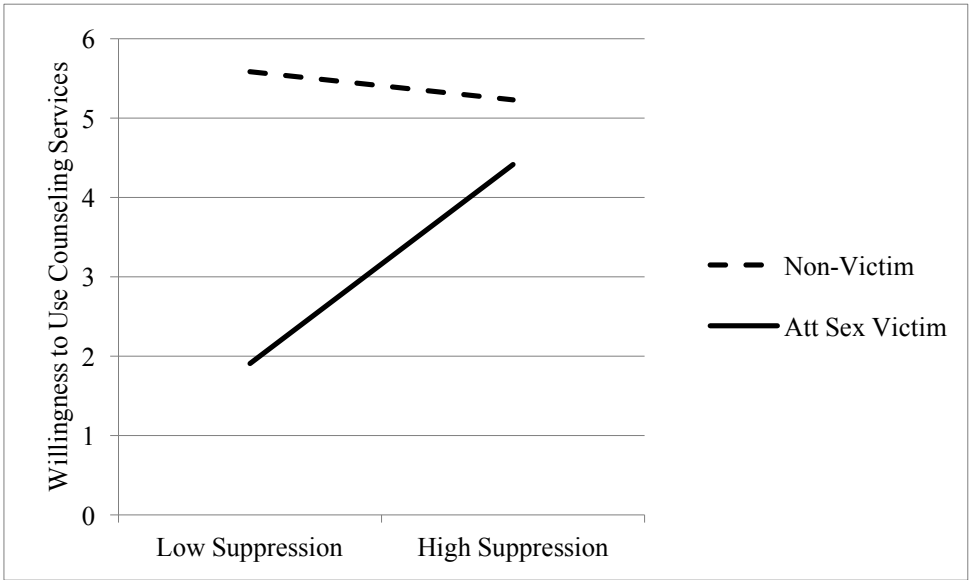
Table III.8. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Military Service	-0.48 (0.10)	-4.79	< .001	-0.68 to -0.28	.002
Freshman	-0.37 (0.16)	-2.34	< .05	-0.68 to -0.06	.001
Sophomore	-0.88 (0.16)	-5.58	< .001	-1.20 to -0.57	.003
Junior	-0.36 (0.15)	-2.31	< .05	-0.66 to -0.05	.001
Senior	-0.14 (0.15)	-0.90	.368	-0.44 to -0.16	.000
Graduate Student	-0.17 (0.16)	-1.11	.265	-0.48 to 0.13	.000
Off Campus Student	-0.08 (0.05)	-1.52	.129	-0.18 to 0.02	.000
ADHD/ADD	-0.05 (0.06)	-0.90	.368	-0.17 to 0.06	.000
Psychological Diagnosis	0.60 (0.06)	-9.87	< .001	-0.72 to -0.48	.010

Notes: Reference groups for demographics were Other/multi-racial (race), non-military service (military status), Hispanic (ethnicity), Other student status (year in school), on campus (residence), non-impaired (for all health conditions). ERQ = emotion regulation questionnaire, B = regression coefficient; SE = standard error; CI = confidence interval; η_p^2 = partial eta squared.

The interaction between attempted vaginal sex and emotion suppression also satisfied the effect size cut-off. Figure III.3 depicts the pattern of the interaction. Visual inspection of the pattern suggests that, for victims, there is an increase in willingness as emotion suppression increases. Non-victims are highly willing to use counseling services regardless of emotion suppression. Moreover, for those low in emotion suppression, non-victims displayed notably greater willingness to use counseling services.

Figure III.3. Attempted Vaginal Sex by Emotion Suppression on Willingness to Use Counseling Services

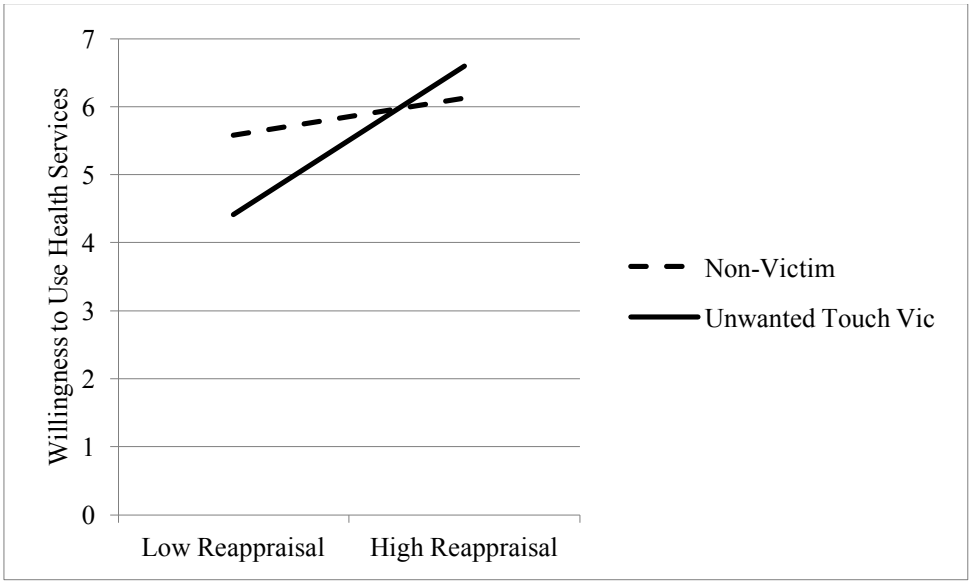


Note: Att = Attempted

Regarding ODU Health Services (ODUHS), victims of attempted vaginal sex were less willing to use health services (small effect) compared to non-victims. Total weekly drinks displayed a small positive effect, suggesting that those who drink more per week are more

willing to use health services. Suicide risk displayed a small negative effect, suggesting that those with higher risk of suicide were less likely to use health services. Cognitive reappraisal displayed a small positive effect and emotion suppression displayed a small negative effect; collectively, this suggests that health emotion regulation is associated with increased willingness to use health services and vice versa. The interaction between unwanted touching and cognitive reappraisal also satisfied the effect size cut-off. Figure III.4 depicts the pattern of the interaction.

Figure III.4. Unwanted Touching by Cognitive Reappraisal on Willingness to Use Health Services

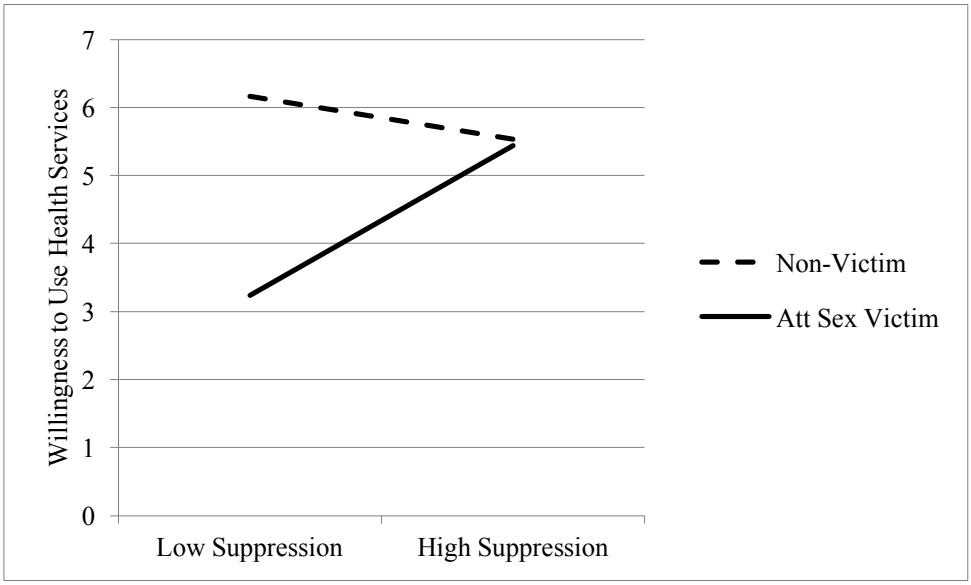


Note: Vic = Victim

Visual inspection of the pattern suggests that there is a positive association between reappraisal and willingness to use health services, but it is stronger or more pronounced for victims. The interaction between attempted vaginal sex and emotion suppression also satisfied the effect size cut-off. Figure III.5 depicts the pattern of the interaction. Visual inspection of the pattern

suggests that there is a positive association between emotion suppression and willingness to use health services, but only for victims. Moreover, for those low in emotion suppression, non-victims display notably greater willingness to use health services.

Figure III.5. Attempted Vaginal Sex by Emotion Suppression on Willingness to Use Health Services

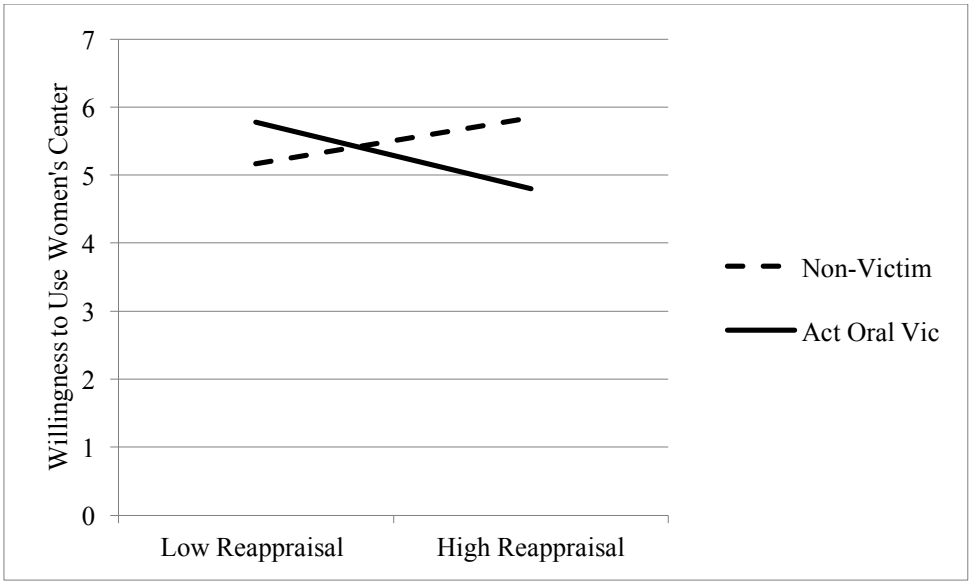


Note: Att = Attempted

Regarding ODU Women's Center (ODUWC), victims of attempted vaginal sex were less willing to use the women's center (small effect) compared to non-victims. Depression displayed a small negative effect, suggesting that those with higher depression scores were less willing to use the women's center. Cognitive reappraisal displayed a small positive effect and emotion suppression displayed a small negative effect; collectively, this suggests that health emotion

regulation is associated with increased willingness to use the women's center and vice versa. The interaction between actual oral sex and cognitive reappraisal also satisfied the effect size cut-off. Figure III.6 depicts the pattern of the interaction.

Figure III.6. Actual Oral Sex by Cognitive Reappraisal on Willingness to Use the Women's Center

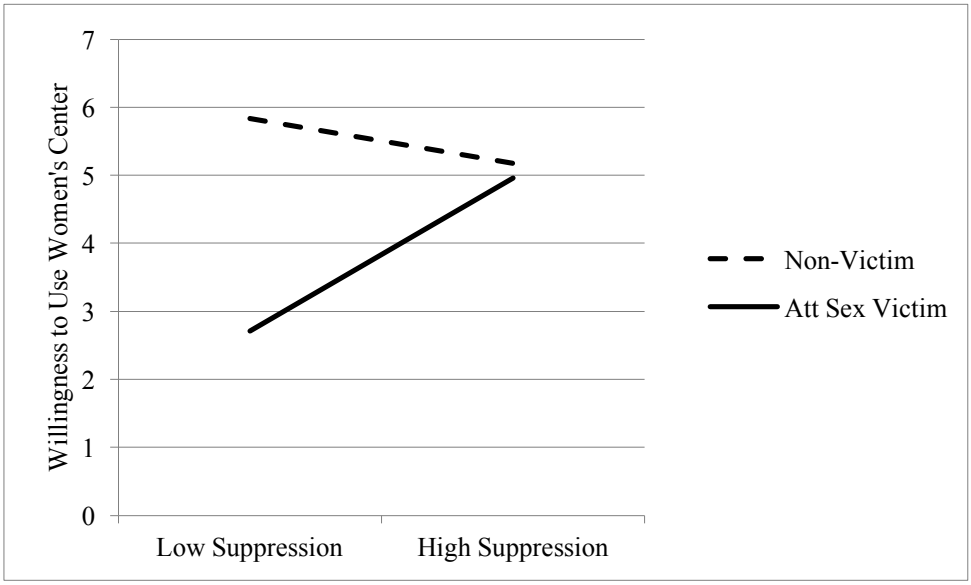


Note: Vic = Victim, Act = Actual

Visual inspection of the pattern suggestions that the direction of association between cognitive reappraisal and willingness to use the women's center changes based on victimization. As with the main effect, the association is positive for non-victims. However, for victims of actual oral sex the association changes direction, suggesting that as reappraisal increases, willingness to use the women's center decreases. The interaction between attempted vaginal sex and emotion

suppression also satisfied the effect size cut-off. Figure III.7 depicts the pattern of the interaction. Visual inspection of the pattern suggests that there is a positive association between emotion suppression and willingness to use the women's center, but only for victims. Moreover, for those low in emotion suppression, non-victims displayed notably greater willingness to use the women's center. Regarding off campus services, only cognitive reappraisal displayed a small positive effect, suggesting as appraisal skills increase willingness to use off campus services also rise.

Figure III.7. Attempted Vaginal Sex by Emotion Suppression on Willingness to Use the Women's Center



Note: Att = Attempted

To test NFA-related hypotheses (i.e., 5, 6 and 8), the following variables were entered into the mGLM model: (1) set of criterion measures (i.e., ODUCC willingness, ODUHS willingness, ODUWC willingness and off campus willingness), (2) covariate predictors of race, ethnicity, year in school, campus housing, self-reported ADD/ADHD diagnosis, self-reported chronic health condition, self-reported psychiatric/psychological condition and military service (3) main effects for victimization (i.e., total of 7), (4) main effects for all mental health variables (i.e., total of 6), (5) main effects for NFA avoidance and NFA approach, and (6) all two-way interaction terms of an NAQ subscale by victimization (i.e., 14 total interaction terms). Multivariate effects for predictors of interest (i.e., victimization, mental health, and need for affect) satisfying effect size cut-offs are noted; univariate effects possessing effect sizes above cut-off ranges are only reported for those predictors where the multivariate criteria were satisfied (i.e., multivariate test serves as an omnibus test). Demographic effects are not reported (see preliminary analyses for patterns of demographic-outcome variable associations).

Demographic variables demonstrating significant multivariate association with mental health symptoms were year in school, self-reported ADD/ADHD diagnosis, self-reported chronic health condition, self-reported psychiatric/psychological condition and military service. Table III.9 shows the multivariate statistics for the mGLM of victimization and need for affect predicting willingness to use health services.

Table III.9.

Multivariate Tests for Need for Affect mGLM Model Predicting Willingness to Use Health Services

Variable	Wilks' λ	F (df)	*p*-value	η_p^2
Age	0.99	14.86 (4, 9396)	< .001	.006
Race	0.98	17.31 (12, 24859.77)	< .001	.007
Ethnicity	0.99	11.81 (4, 9396)	< .001	.005
Military Status	0.97	69.32 (4, 9396)	< .001	.029
School Year	0.94	28.70 (20, 31163.96)	< .001	.015
Campus Housing	1.00	4.78 (4, 9396)	< .001	.002
ADD/ADHD Diagnosis	0.98	45.70 (4, 9396)	< .001	.019
Chronic Health Condition	0.96	89.45 (4, 9396)	< .001	.037
Psychiatric/Psychological Condition	0.98	49.06 (4, 9396)	< .001	.020
Total Weekly Drinks	0.98	57.17 (4, 9396)	< .001	.024
Depression	0.97	69.29 (4, 9396)	< .001	.029
Anxiety	0.99	16.38 (4, 9396)	< .001	.007
Stress	0.98	40.80 (4, 9396)	< .001	.017
PTSD	0.98	48.32 (4, 9396)	< .001	.020
Suicide Risk	0.98	43.75 (4, 9396)	< .001	.018
Unwanted Touching	0.99	31.40 (4, 9396)	< .001	.013
Actual Oral Sex	0.99	30.52 (4, 9396)	< .001	.013
Actual Vaginal Sex	0.99	13.77 (4, 9396)	< .001	.006
Actual Anal Sex	0.99	15.92 (4, 9396)	< .001	.007
Attempted Oral Sex	0.99	32.82 (4, 9396)	< .001	.014
Attempted Vaginal Sex	0.98	39.87 (4, 9396)	< .001	.017
Attempted Anal Sex	1.00	6.96 (4, 9396)	< .001	.003
NFA Approach	0.98	51.50 (4, 9396)	< .001	.021
NFA Avoidance	0.99	13.18 (4, 9396)	< .001	.006
Unwanted Touching x NFA Approach	0.98	39.03 (4, 9396)	< .001	.016
Actual Oral Sex x NFA Approach	0.98	54.85 (4, 9396)	< .001	.023
Actual Vaginal Sex x NFA Approach	1.00	3.79 (4, 9396)	< .001	.002
Actual Anal Sex x NFA Approach	0.99	13.05 (4, 9396)	< .001	.006

Table III.9. Continued

Variable	Wilks' λ	F (df)	*p*-value	η_p^2
Attempted Oral Sex x NFA Approach	1.00	1.13 (4, 9396)	< .001	.000
Attempted Vaginal Sex x NFA Approach	0.99	25.11 (4, 9396)	< .001	.011
Attempted Anal Sex x NFA Approach	1.00	8.07 (4, 9396)	< .001	.003
Unwanted Touching x NFA Avoidance	0.98	49.27 (4, 9396)	< .001	.021
Actual Oral Sex x NFA Avoidance	0.99	27.50 (4, 9396)	< .001	.012
Actual Vaginal Sex x NFA Avoidance	0.99	11.54 (4, 9396)	< .001	.005
Actual Anal Sex x NFA Avoidance	0.99	17.53 (4, 9396)	< .001	.007
Attempted Oral Sex x NFA Avoidance	0.99	19.35 (4, 9396)	< .001	.008
Attempted Vaginal Sex x NFA Avoidance	0.98	34.60 (4, 9396)	< .001	.015
Attempted Anal Sex x NFA Avoidance	0.99	10.67 (4, 9396)	< .001	.005

Notes: ADD/ADHD = Attention Deficit Disorder/Attention-Deficit Hyperactivity Disorder, NFA = need for affect, PTSD = post-traumatic stress disorder, x = interaction term, η_p^2 = partial eta squared.

All predictors were statistically significant at the multivariate level. Four of the seven main effects for victimization satisfied the effect size cut off: unwanted touching, actual oral sex, attempted oral sex and attempted vaginal sex. All six main effects of mental health satisfied the effect size cut off: total weekly drinks, depression, anxiety, stress, PTSD, and suicide risk. NFA avoidance also satisfied the effect size cut-off. The following victimization by NFA interaction terms satisfied the effect size cut-off: unwanted touching by approach, attempted oral sex by approach, attempted vaginal sex by approach, unwanted touching by avoidance, actual oral sex by avoidance, and attempted sex by avoidance.

Significant univariate effects meeting the effect size cut-off are listed by model (see Table III.10 for full model statistics for each willingness to use outcome). Regarding the ODUCC, depression displayed a small negative effect, suggesting that victims with higher depression scores were less willing to use counseling services. PTSD displayed a small positive effect, suggesting that victims with higher PTSD symptoms were more willing to use counseling services. Suicide risk displayed a small negative effect, suggesting that victims with greater risk of suicide were less likely to use counseling services. NFA approach displayed a small positive association, suggesting that as NFA approach increases willingness to use the counseling center also increases.

Table III.10.

Univariate Model Statistics for Victimization and Emotion Regulation Predicting Willingness to Use Health Services

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
ODU Counseling Center Model					
Intercept	5.34 (0.20)	26.98	< .001	4.95 to 5.72	.072
Unwanted Touching	-0.34 (0.08)	-4.08	< .001	-0.50 to -0.17	.002
Actual Oral Sex	-0.01 (0.10)	-0.13	.896	-0.22 to 0.19	.000
Actual Vaginal Sex	-0.07 (0.12)	-0.58	.559	-0.30 to 0.16	.000
Actual Anal Sex	1.49 (0.23)	6.56	< .001	1.04 to 1.93	.005
Attempted Oral Sex	0.24 (0.12)	2.00	< .05	0.00 to 0.47	.000
Attempted Vaginal Sex	-0.67 (0.15)	-4.55	< .001	-0.95 to -0.38	.002
Attempted Anal Sex	-0.07 (0.19)	0.35	.725	-0.45 to 0.31	.000
Age	0.01 (0.02)	0.44	.662	-0.03 to 0.06	.000
Total Weekly Drinks	0.15 (0.02)	7.48	< .001	0.11 to 0.19	.006
Depression	-0.45 (0.03)	-13.76	< .001	-0.52 to -0.39	.020
Anxiety	-0.25 (0.03)	-7.47	< .001	0.11 to 0.19	.006
Stress	-0.32 (0.03)	9.16	< .001	0.25 to 0.39	.009
PTSD	0.35 (0.03)	10.15	< .001	0.28 to 0.41	.011
Suicide Risk	-0.24 (0.02)	-10.05	< .001	-0.28 to -0.19	.011
NFA Approach	-0.39 (0.03)	14.72	< .001	0.33 to 0.44	.023
NFA Avoidance	-0.32 (0.03)	-12.06	< .001	-0.38 to -0.27	.015
Unwanted Touching x NFA Approach	1.14 (0.13)	8.93	< .001	0.89 to 1.39	.008
Actual Oral Sex x NFA Approach	-1.29 (0.12)	-10.45	< .001	-1.53 to -1.05	.011
Actual Vaginal Sex x NFA Approach	-0.73 (0.21)	-3.51	< .001	-1.14 to -0.32	.001
Actual Anal Sex x NFA Approach	5.29 (0.79)	6.72	< .001	3.74 to 6.83	.005
Attempted Oral Sex x NFA Approach	-0.40 (0.19)	-2.07	< .05	-0.77 to -0.02	.000
Attempted Vaginal Sex x NFA Approach	1.10 (0.17)	6.58	< .001	0.77 to 1.42	.005
Attempted Anal Sex x NFA Approach	-3.29 (0.74)	-4.43	< .001	-4.75 to -1.84	.002
Unwanted Touching x NFA Avoidance	-0.26 (0.12)	-2.27	< .05	-0.49 to 0.04	.001

Table III.10. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Actual Oral Sex x NFA Avoidance	0.29 (0.11)	2.50	< .05	0.06 to 0.51	.001
Actual Vaginal Sex x NFA Avoidance	0.37 (0.18)	2.07	< .05	0.02 to 0.71	.000
Actual Anal Sex x NFA Avoidance	-1.11 (0.35)	-3.14	< .01	-1.80 to -0.41	.001
Attempted Oral Sex x NFA Avoidance	0.78 (0.24)	3.27	< .01	0.31 to 1.24	.001
Attempted Vaginal Sex x NFA Avoidance	0.39 (0.19)	2.04	< .05	0.02 to 0.76	.000
Attempted Anal Sex x NFA Avoidance	-0.59 (0.31)	-1.91	.056	-1.19 to 0.01	.000
White	-0.07 (0.05)	-1.23	.217	-0.18 to 0.04	.000
African American	-0.35 (0.06)	-5.50	< .001	-0.47 to -0.22	.003
Asian/Pacific Islander	-0.30 (0.09)	-3.28	< .01	-0.48 to -0.12	.001
Non-Hispanic	0.01 (0.06)	0.15	.883	-0.11 to 0.13	.000
Military Service	0.07 (0.10)	0.67	.500	-0.13 to 0.26	.000
Freshman	-0.51 (0.15)	-3.35	< .01	-0.81 to -0.21	.001
Sophomore	-0.76 (0.15)	-4.95	< .001	-1.06 to -0.46	.003
Junior	-0.46 (0.15)	-3.09	< .01	-0.76 to -0.17	.001
Senior	-0.70 (0.15)	-4.69	< .001	-1.00 to -0.41	.002
Graduate Student	-1.00 (0.15)	-6.46	< .001	-1.29 to -0.69	.004
Off Campus Student	-0.16 (0.05)	-3.24	< .01	-0.26 to -0.06	.001
ADHD/ADD	-0.40 (0.06)	-7.05	< .001	-0.51 to -0.29	.005
Chronic Health Diagnosis	-0.26 (0.08)	-3.46	< .01	-0.41 to -0.11	.001
Psychological Diagnosis	0.01 (0.06)	0.14	.889	-0.11 to 0.12	.000
<u>ODU Health Services Model</u>					
Intercept	5.91 (0.19)	30.82	< .001	5.54 to 6.29	.092
Unwanted Touching	0.01 (0.08)	0.11	.912	-0.15 to 0.17	.000
Actual Oral Sex	-0.81 (0.10)	-8.00	< .001	-1.01 to -0.61	.007
Actual Vaginal Sex	0.05 (0.11)	0.48	.632	-0.17 to 0.28	.000
Actual Anal Sex	1.18 (0.22)	5.36	< .001	0.75 to 1.61	.003
Attempted Oral Sex	0.87 (0.12)	7.45	< .001	0.64 to 1.10	.006
Attempted Vaginal Sex	-0.53 (0.14)	-3.73	< .001	-0.81 to -0.25	.001
Attempted Anal Sex	-0.73 (0.19)	-3.91	< .001	-1.10 to -0.36	.002

Table III.10. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Age	-0.09 (0.02)	-4.02	< .001	-0.13 to -0.05	.002
Total Weekly Drinks	0.26 (0.02)	13.06	< .001	0.22 to 0.30	.018
Depression	-0.19 (0.03)	-5.83	< .001	-0.25 to -0.12	.004
Anxiety	-0.09 (0.03)	-2.78	< .01	-0.15 to -0.03	.001
Stress	0.24 (0.03)	7.04	< .001	0.17 to 0.31	.005
PTSD	0.04 (0.03)	1.15	.248	-0.3 to 0.10	.000
Suicide Risk	-0.27 (0.02)	-11.63	< .001	-0.32 to -0.22	.014
NFA Approach	0.46 (0.02)	18.11	< .001	0.41 to 0.51	.034
NFA Avoidance	-0.35 (0.02)	-13.32	< .001	-0.40 to -0.30	.019
Unwanted Touching x NFA Approach	1.52 (0.12)	12.32	< .001	1.28 to 1.77	.016
Actual Oral Sex x NFA Approach	-1.73 (0.12)	-14.48	< .001	-1.97 to -1.50	.022
Actual Vaginal Sex x NFA Approach	-0.50 (0.20)	-2.49	< .05	-0.89 to -0.11	.001
Actual Anal Sex x NFA Approach	1.96 (0.76)	2.57	< .05	0.46 to 3.46	.001
Attempted Oral Sex x NFA Approach	-0.19 (0.18)	-1.03	.305	-0.55 to 0.17	.000
Attempted Vaginal Sex x NFA Approach	0.02 (0.16)	0.11	.909	-0.30 to 0.34	.000
Attempted Anal Sex x NFA Approach	-1.81 (0.72)	-2.50	< .05	-3.22 to -0.39	.001
Unwanted Touching x NFA Avoidance	0.95 (0.11)	8.45	< .001	0.73 to 1.17	.008
Actual Oral Sex x NFA Avoidance	-0.67 (0.11)	-5.99	< .001	-0.89 to -0.45	.004
Actual Vaginal Sex x NFA Avoidance	0.06 (0.17)	0.38	.705	-0.27 to 0.40	.000
Actual Anal Sex x NFA Avoidance	0.55 (0.34)	1.61	.107	-0.12 to 1.22	.000
Attempted Oral Sex x NFA Avoidance	1.46 (0.23)	6.34	< .001	1.01 to 1.91	.004
Attempted Vaginal Sex x NFA Avoidance	-0.79 (0.19)	-4.28	< .001	-1.16 to -0.43	.002
Attempted Anal Sex x NFA Avoidance	-1.35 (0.30)	-4.55	< .001	-1.94 to -0.77	.002
White	-0.08 (0.05)	-1.59	.113	-0.19 to 0.02	.000
African American	-0.02 (0.06)	-0.38	.705	-0.14 to 0.10	.000
Asian/Pacific Islander	0.24 (0.09)	2.63	< .01	0.06 to 0.41	.001
Non-Hispanic	0.10 (0.06)	1.62	.105	-0.02 to 0.22	.000
Military Service	-1.15 (0.09)	-12.15	< .001	-1.34 to -0.97	.015
Freshman	-0.60 (0.15)	-4.08	< .001	-0.90 to -0.31	.002
Sophomore	-0.49 (0.15)	-3.26	< .01	-0.78 to -0.19	.001

Table III.10. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Junior	-0.78 (0.15)	-5.36	< .001	1.07 to -0.50	.003
Senior	-0.64 (0.14)	-4.42	< .001	-0.92 to -0.36	.002
Graduate Student	-0.45 (0.15)	-3.01	< .01	-0.74 to -0.15	.001
Off Campus Student	-0.21 (0.05)	-4.20	< .001	-0.30 to -0.11	.002
ADHD/ADD	-0.53 (0.06)	-9.55	< .001	-0.64 to -0.42	.010
Chronic Health Diagnosis	-0.14 (0.07)	-1.95	.051	-0.29 to 0.00	.000
Psychological Diagnosis	0.52 (0.06)	9.03	< .001	0.41 to 0.63	.009
ODU Women's Center Model					
Intercept	5.48 (0.19)	28.15	< .001	5.10 to 5.87	.078
Unwanted Touching	0.25 (0.08)	3.13	< .01	0.09 to 0.41	.001
Actual Oral Sex	-0.41 (0.10)	-4.02	< .001	-0.61 to -0.21	.002
Actual Vaginal Sex	0.02 (0.11)	0.17	.868	-0.21 to 0.25	.000
Actual Anal Sex	1.33 (0.22)	5.96	< .001	0.89 to 1.77	.004
Attempted Oral Sex	0.97 (0.12)	8.20	< .001	0.74 to 1.20	.007
Attempted Vaginal Sex	-0.86 (0.14)	-5.95	< .001	-1.14 to -0.57	.004
Attempted Anal Sex	-0.29 (0.19)	-1.53	.126	-0.66 to 0.08	.000
Age	0.04 (0.02)	1.56	.119	-0.01 to 0.08	.000
Total Weekly Drinks	0.09 (0.02)	4.40	< .001	0.05 to 0.13	.002
Depression	-0.43 (0.03)	-13.25	< .001	-0.50 to -0.37	.018
Anxiety	-0.16 (0.03)	-4.83	< .001	-0.22 to -0.09	.002
Stress	0.17 (0.03)	4.80	< .001	0.10 to 0.23	.002
PTSD	0.28 (0.03)	8.44	< .001	0.22 to 0.35	.008
Suicide Risk	-0.17 (0.02)	-7.06	< .001	-0.21 to -0.12	.005
NFA Approach	0.41 (0.03)	15.86	< .001	0.36 to 0.46	.026
NFA Avoidance	-0.51 (0.03)	-19.12	< .001	-0.56 to -0.46	.037
Unwanted Touching x NFA Approach	1.04 (0.12)	8.32	< .001	0.80 to 1.29	.007
Actual Oral Sex x NFA Approach	-1.45 (0.12)	-11.96	< .001	-1.69 to -1.21	.015
Actual Vaginal Sex x NFA Approach	-0.37 (0.20)	-1.83	.067	-0.77 to 0.03	.000
Actual Anal Sex x NFA Approach	3.07 (0.77)	3.96	< .001	1.55 to 4.59	.002

Table III.10. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Attempted Oral Sex x NFA Approach	-0.25 (0.19)	-1.32	.188	-0.62 to 0.12	.000
Attempted Vaginal Sex x NFA Approach	0.29 (0.16)	1.80	.072	-0.03 to 0.62	.000
Attempted Anal Sex x NFA Approach	-0.86 (0.73)	-1.18	.239	-2.30 to 0.57	.000
Unwanted Touching x NFA Avoidance	0.70 (0.11)	6.17	< .001	0.48 to 0.93	.004
Actual Oral Sex x NFA Avoidance	-0.35 (0.11)	-3.13	< .01	-0.58 to -0.13	.001
Actual Vaginal Sex x NFA Avoidance	-0.39 (0.17)	-2.26	< .05	-0.74 to -0.05	.001
Actual Anal Sex x NFA Avoidance	-0.89 (0.35)	-2.57	< .05	-1.57 to -0.21	.001
Attempted Oral Sex x NFA Avoidance	0.20 (0.23)	0.85	.397	-0.26 to 0.66	.000
Attempted Vaginal Sex x NFA Avoidance	0.60 (0.19)	3.17	< .01	0.23 to 0.97	.001
Attempted Anal Sex x NFA Avoidance	-0.05 (0.30)	-0.17	.861	-0.65 to 0.54	.000
White	-0.02 (0.05)	-0.52	.603	-0.13 to 0.08	.000
African American	-0.02 (0.06)	-0.35	.723	-0.14 to 0.10	.000
Asian/Pacific Islander	0.21 (0.09)	2.36	< .05	0.04 to 0.39	.001
Non-Hispanic	-0.12 (0.06)	-2.01	< .05	-0.25 to 0.00	.000
Military Service	-0.65 (0.10)	-6.80	< .001	-0.84 to -0.47	.005
Freshman	-0.50 (0.15)	-3.31	< .01	-0.79 to -0.20	.001
Sophomore	-0.44 (0.15)	-2.92	< .01	-0.74 to -0.15	.001
Junior	-0.73 (0.15)	-4.94	< .001	-1.02 to -0.44	.003
Senior	-0.65 (0.15)	-4.44	< .001	-0.94 to -0.36	.002
Graduate Student	-0.67 (0.15)	-4.44	< .001	-0.96 to -0.37	.002
Off Campus Student	-0.18 (0.05)	-3.68	< .001	-0.28 to -0.09	.001
ADHD/ADD	-0.60 (0.06)	-10.68	< .001	-0.71 to -0.49	.012
Chronic Health Diagnosis	-0.22 (0.07)	2.92	< .01	-0.37 to -0.07	.001
Psychological Diagnosis	0.49 (0.06)	8.33	< .001	0.37 to 0.60	.007
<u>Off Campus Services Model</u>					
Intercept	6.46 (0.20)	32.20	< .001	6.06 to 6.85	.099
Unwanted Touching	0.54 (0.08)	6.48	< .001	0.38 to 0.71	.004
Actual Oral Sex	-0.62 (0.11)	-5.93	< .001	-0.83 to -0.42	.004
Actual Vaginal Sex	-0.69 (0.12)	-5.82	< .001	-0.92 to 0.46	.004

Table III.10. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Actual Anal Sex	0.10 (0.23)	0.46	.647	-0.34 to 0.56	.000
Attempted Oral Sex	0.09 (0.12)	0.71	.477	-0.15 to 0.32	.000
Attempted Vaginal Sex	0.83 (0.15)	5.62	< .001	0.54 to 1.12	.003
Attempted Anal Sex	-0.55 (0.20)	-2.84	< .01	-0.94 to -0.17	.001
Age	0.01 (0.02)	0.43	.663	-0.04 to 0.06	.000
Total Weekly Drinks	0.05 (0.05)	2.58	< .05	0.01 to 0.09	.001
Depression	-0.25 (0.03)	-7.48	< .001	-0.32 to -0.18	.006
Anxiety	-0.07 (0.03)	-2.08	< .05	-0.13 to 0.00	.000
Stress	-0.11 (0.04)	-3.03	< .01	-0.18 to -0.04	.001
PTSD	0.15 (0.03)	4.19	< .001	0.08 to 0.21	.002
Suicide Risk	-0.05 (0.02)	-2.00	< .05	-0.10 to 0.00	.000
NFA Approach	0.32 (0.03)	11.96	< .001	0.27 to 0.37	.015
NFA Avoidance	-0.44 (0.03)	-16.15	< .001	-0.50 to -0.39	.027
Unwanted Touching x NFA Approach	0.86 (0.13)	6.69	< .001	0.61 to 1.12	.005
Actual Oral Sex x NFA Approach	-1.19 (0.12)	-9.55	< .001	-1.44 to -0.95	.010
Actual Vaginal Sex x NFA Approach	-0.51 (0.21)	-2.42	< .05	-0.92 to -0.10	.001
Actual Anal Sex x NFA Approach	2.74 (0.80)	3.43	< .01	1.17 to 4.30	.001
Attempted Oral Sex x NFA Approach	-0.13 (0.19)	-0.67	.504	-0.51 to 0.25	.000
Attempted Vaginal Sex x NFA Approach	0.90 (0.17)	5.33	< .001	0.57 to 1.23	.003
Attempted Anal Sex x NFA Approach	-2.32 (0.75)	-3.08	< .01	-3.80 to -0.84	.001
Unwanted Touching x NFA Avoidance	0.51 (0.12)	4.33	< .001	0.28 to 0.74	.002
Actual Oral Sex x NFA Avoidance	-0.18 (0.12)	-1.52	.128	-0.41 to 0.05	.000
Actual Vaginal Sex x NFA Avoidance	0.43 (0.18)	2.37	< .05	0.07 to 0.78	.001
Actual Anal Sex x NFA Avoidance	1.10 (0.36)	3.07	< .01	0.40 to 1.80	.001
Attempted Oral Sex x NFA Avoidance	0.91 (0.24)	3.76	< .001	0.43 to 1.38	.002
Attempted Vaginal Sex x NFA Avoidance	-0.72 (0.19)	-3.71	< .001	-1.10 to -0.34	.001
Attempted Anal Sex x NFA Avoidance	-0.65 (0.31)	-2.07	< .05	-1.25 to -0.03	.000
White	0.00 (0.06)	0.07	.946	-0.11 to 0.11	.000
African American	-0.33 (0.06)	-5.07	< .001	-0.45 to -0.20	.003
Asian/Pacific Islander	0.15 (0.09)	1.65	.099	-0.03 to 0.34	.000

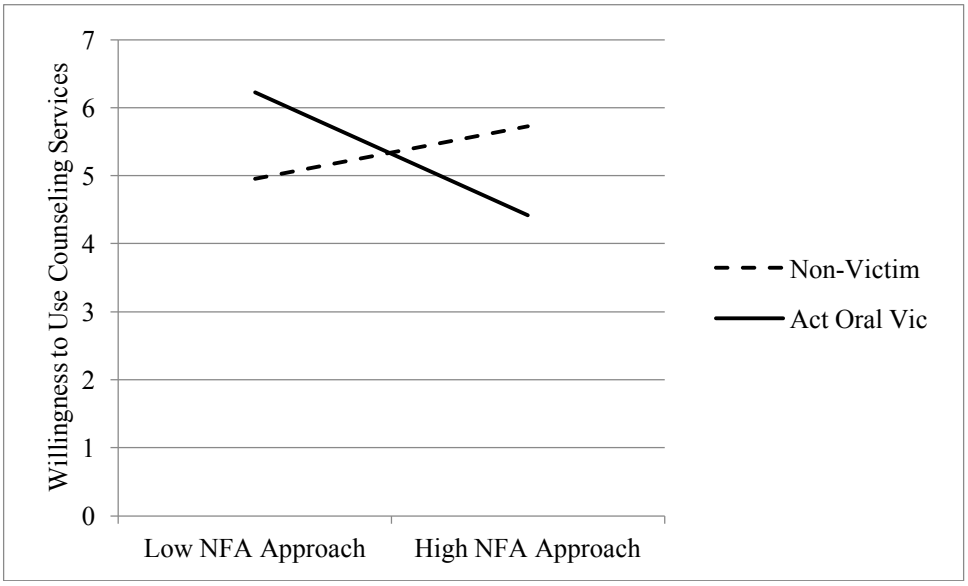
Table III.10. Continued

Variable	*B* (*SE B*)	T	*p*	*B* 95% CI	η_p^2
Non-Hispanic	0.21 (0.06)	3.32	< .001	0.09 to 0.34	.001
Military Service	-0.45 (0.10)	-4.53	< .001	-0.64 to -0.25	.002
Freshman	-0.13 (0.15)	-0.87	.382	-0.44 to -0.17	.000
Sophomore	-0.57 (0.16)	-3.65	< .001	-0.87 to -0.26	.001
Junior	-0.06 (0.15)	-0.42	.671	-0.36 to 0.23	.000
Senior	0.07 (0.15)	0.44	.659	-0.28 to 0.32	.000
Graduate Student	0.02 (0.15)	0.12	.903	-0.28 to 0.32	.000
Off Campus Student	-0.09 (0.05)	-1.85	.064	-0.20 to 0.00	.000
ADHD/ADD	-0.01 (0.06)	-0.10	.919	-0.12 to 0.11	.000
Chronic Health Diagnosis	1.03 (0.08)	13.34	< .001	0.88 to 1.18	.019
Psychological Diagnosis	0.51 (0.06)	8.49	< .001	0.39 to 0.63	.008

Notes: Reference groups for demographics were Other/multi-racial (race), non-military service (military status), Hispanic (ethnicity), Other student status (year in school), on campus (residence), non-impaired (for all health conditions). ERQ = emotion regulation questionnaire, B = regression coefficient; SE = standard error; CI = confidence interval; η_p^2 = partial eta squared.

The interaction between actual oral sex and NFA approach also satisfied the effect size cut-off. Figure III.8 depicts the pattern of the interaction. Visual inspection of the pattern suggests that the direction of association between NFA approach and willingness to use the counselling services changes based on victimization. As with the main effect, the NFA approach association with willingness to use counseling services is positive for non-victims. However, for victims of actual oral sex the association changes direction, suggesting that as NFA approach increases willingness to use the counseling services decreases.

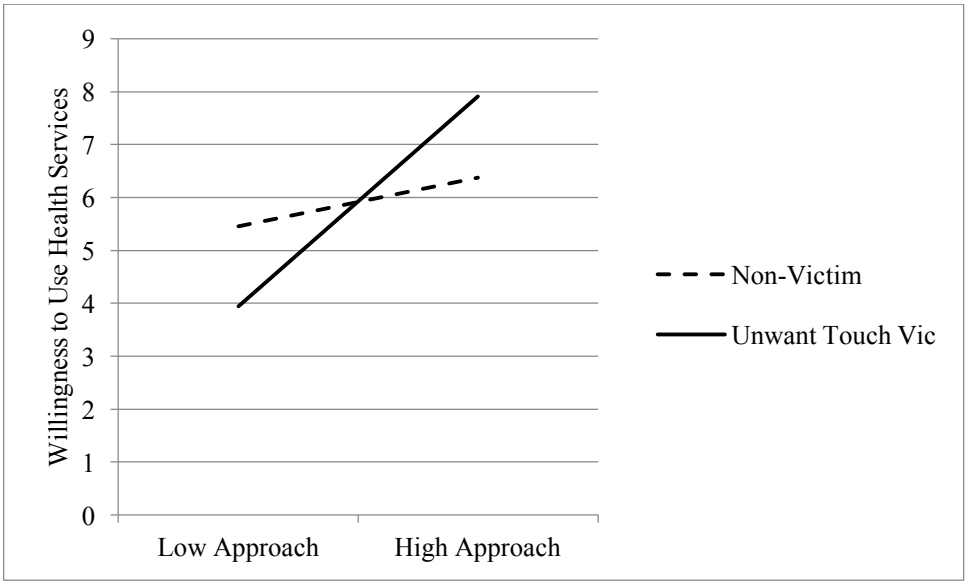
Figure III.8. Actual Oral Sex by NFA Approach on Willingness to Use Counseling Services



Note: Vic = Victim, Act = Actual

Regarding ODUHS, total weekly drinks displayed a small positive effect, suggesting that victims with higher weekly drinking totals are more willing to use health services. Suicide risk displayed a small negative effect, suggesting that victims at higher risk of suicide are less likely to use health services. NFA approach displayed a small positive association, indicating that as NFA approach increases willingness to use the health services also increases. The interaction between unwanted touching and NFA approach also satisfied the effect size cut-off. Figure III.9 depicts the pattern of the interaction.

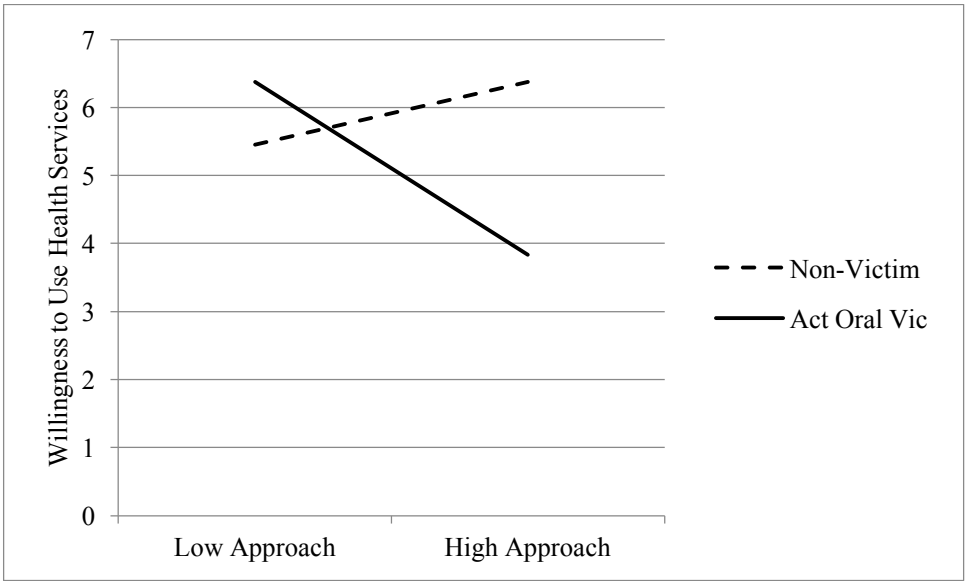
Figure III.9. Unwanted Touching by NFA Approach on Willingness to Use Health Services



Note: Vic = Victim, Unwant = Unwanted

Visual inspection of the pattern suggests that there is a small positive association between NFA approach and willingness to use health services, but only for victims of unwanted touching. The interaction between actual oral sex and NFA approach also satisfied the effect size cut-off. Figure III.10 depicts the pattern of the interaction. Visual inspection of the pattern suggests that the direction of association between NFA approach and willingness to use the health services changes based on victimization.

Figure III.10. Actual Oral Sex by NFA Approach on Willingness to Use Health Services



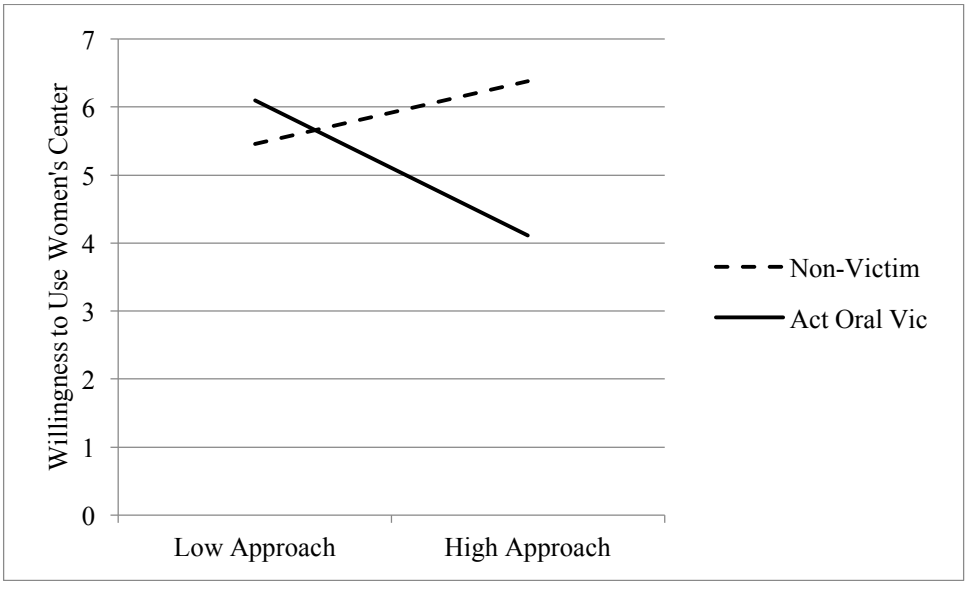
Note: Vic = Victim, Act = Actual

As with the main effect, the NFA approach association with willingness to use health services is positive for non-victims. However, for victims of actual oral sex the association changes

direction, suggesting that as NFA approach increases willingness to use health services decreases.

Regarding the ODUWC, depression displayed a small negative association with willingness to use the women's center. NFA approach displayed a small positive association with willingness to use the women's center. The interaction between actual oral sex and NFA approach also satisfied the effect size cut-off. Figure III.11 depicts the pattern of the interaction. Visual inspection of the pattern suggests that the direction of association between NFA approach and willingness to use the women's center changes based on victimization. As with the main effect, the NFA approach association with willingness to use the women's center is positive for non-victims. However, for victims of actual oral sex the association changes direction, suggesting that as NFA approach increases willingness to use the women's center decreases.

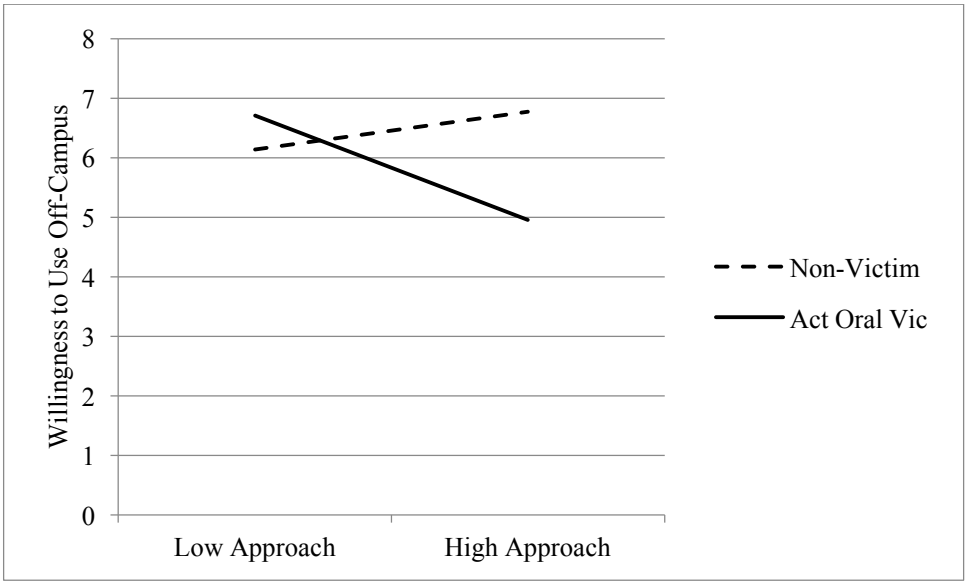
Figure III.11. Actual Oral Sex by NFA Approach on Willingness to Use the Women's Center



Note: Vic = Victim, Act = Actual

Regarding off campus services, NFA approach displayed a small positive association. The interaction between actual oral sex and NFA approach also satisfied the effect size cut-off. Figure III.12 depicts the pattern of the interaction. Visual inspection of the pattern suggests that the direction of association between NFA approach and willingness to use off campus services changes based on victimization. As with the main effect, the NFA approach association with willingness to use off campus services is positive for non-victims. However, for victims of actual oral sex the association changes direction, suggesting that as NFA approach increases willingness to use off campus services decreases.

Figure III.12. Actual Oral Sex by NFA Approach on Willingness to Use Off Campus Services



Note: Vic = Victim, Act = Actual

To test actual health service use in hypotheses 5 through 8, a series of logistic regressions were run. A total of four models were run, one for each health service use binary outcome (i.e., no/yes usage). To test actual use of ODUCC, the following variables were entered into the logistic regression: (1) main effects for victimization (i.e., total of 7), (2) main effects for all mental health variables (i.e., total of 6), (3) main effects for ERQ reappraisal and ERQ suppression, (4) main effects for NFA approach and avoidance, (5) all two-way interaction terms of an ERQ subscale by victimization (i.e., 14 total interaction terms) and, (6) all two-way interaction terms of an NAQ-S subscale by victimization (i.e., 14 total interaction terms). Main effects for variables of interest (i.e., victimization, mental health, emotion regulation, need for affect, and all two-way interactions) satisfying a p-value of $< .05$ are noted. Interpretation of odds ratios were based on the following guidelines: 1.68 is small, 3.47 is medium, and 6.71 is large (Chen, Cohen & Chen, 2010). The results of the logistic regression indicated model fit was acceptable, Hosmer & Lemeshow χ^2 (8) = 6.24, p = .62. Model results suggest that predictors accounted for a statistically significant, yet small, variance in counseling services usage, χ^2 (45) = 62.60, p = .04, Cox & Snell R^2 = .007, Nagelkerke R^2 = .024. There were no significant main effects (see Table III.11 for regression statistics).

Table III.11.

Logistic Regression Model Predicting Counseling Service Usage

Variable	*B* (*SE B*)	χ^2 (df)	*p*-value	OR	OR 95% CI
Constant	3.25 (0.07)	2420.49 (1)	< .001	25.86	-
Unwanted Touching	0.20 (0.29)	0.48 (1)	.489	1.22	0.69 to 2.16
Actual Oral Sex	0.00 (0.38)	0.00 (1)	1.00	1.00	0.47 to 2.12
Actual Vaginal Sex	-0.06 (0.46)	0.02 (1)	.889	0.94	0.38 to 2.29
Actual Anal Sex	0.31 (1.30)	0.06 (1)	.812	1.36	0.11 to 17.40
Attempted Oral Sex	-0.14 (0.40)	0.12 (1)	.731	0.87	0.40 to 1.91
Attempted Vaginal Sex	0.03 (0.62)	0.00 (1)	.962	1.03	0.31 to 3.46
Attempted Anal Sex	-0.17 (0.83)	0.04 (1)	.836	0.84	0.17 to 4.26
Total Weekly Drinks	0.00 (0.06)	0.00 (1)	.979	1.00	0.89 to 1.13
Depression	0.02 (0.10)	0.06 (1)	.804	1.02	0.84 to 1.25
Anxiety	-0.11 (0.10)	1.40 (1)	.237	0.89	0.74 to 1.08
Stress	0.07 (0.11)	0.42 (1)	.516	1.07	0.87 to 1.33
PTSD	0.02 (0.10)	0.04 (1)	.837	1.02	0.83 to 1.25
Suicide Risk	0.04 (0.07)	0.30 (1)	.583	1.04	0.90 to 1.20
NFA Approach	0.15 (0.08)	3.38 (1)	.066	1.17	0.99 to 1.38
NFA Avoidance	0.10 (0.09)	1.22 (1)	.269	1.11	0.92 to 1.33
ERQ Reappraisal	-0.04 (0.07)	0.28 (1)	.596	0.95	0.85 to 1.10
ERQ Suppression	-0.07 (0.08)	0.75 (1)	.387	0.93	0.80 to 1.09
Unwanted Touching x NFA Approach	0.26 (0.46)	0.32 (1)	.571	1.30	0.52 to 3.24
Actual Oral Sex x NFA Approach	0.46 (0.45)	1.03 (1)	.310	1.59	0.65 to 3.87
Actual Vaginal Sex x NFA Approach	-0.15 (0.75)	0.04 (1)	.844	0.86	0.20 to 3.76
Actual Anal Sex x NFA Approach	0.58 (3.82)	0.02 (1)	.879	1.79	0.00 to 3211.56
Attempted Oral Sex x NFA Approach	0.45 (0.62)	0.52 (1)	.471	1.56	0.46 to 5.25
Attempted Vaginal Sex x NFA Approach	-0.49 (0.54)	0.82 (1)	.366	0.61	0.21 to 1.77
Attempted Anal Sex x NFA Approach	-1.93 (3.59)	0.29 (1)	.590	0.14	0.00 to 163.76
Unwanted Touching x NFA Avoidance	0.37 (0.44)	0.68 (1)	.409	1.44	0.60 to 3.44
Actual Oral Sex x NFA Avoidance	0.59 (0.50)	1.40 (1)	.236	1.81	0.68 to 4.83
Actual Vaginal Sex x NFA Avoidance	-0.74 (0.83)	0.79 (1)	.374	0.48	0.09 to 2.44

Table III.11. Continued

Variable	*B* (*SE B*)	χ^2 (df)	*p*-value	OR	OR 95% CI
Actual Anal Sex x NFA Avoidance	-0.09 (1.96)	0.00 (1)	.964	0.91	0.02 to 42.42
Attempted Oral Sex x NFA Avoidance	-0.08 (0.87)	0.01 (1)	.923	0.92	0.17 to 5.10
Attempted Vaginal Sex x NFA Avoidance	0.29 (0.94)	0.09 (1)	.760	1.33	0.21 to 8.45
Attempted Anal Sex x NFA Avoidance	-0.75 (1.56)	0.23 (1)	.631	0.47	0.02 to 10.06
Unwanted Touching x ERQ Reappraisal	-0.11 (0.35)	0.11 (1)	.740	0.89	0.45 to 1.76
Actual Oral Sex x ERQ Reappraisal	-0.08 (0.38)	0.04 (1)	.834	0.92	0.44 to 1.95
Actual Vaginal Sex x ERQ Reappraisal	0.35 (0.45)	0.62 (1)	.432	1.42	0.59 to 3.44
Actual Anal Sex x ERQ Reappraisal	0.62 (0.92)	0.47 (1)	.495	1.87	0.31 to 11.25
Attempted Oral Sex x ERQ Reappraisal	0.21 (0.44)	0.22 (1)	.636	1.23	0.52 to 2.93
Attempted Vaginal Sex x ERQ Reappraisal	-0.58 (0.51)	1.30 (1)	.253	0.56	0.21 to 1.51
Attempted Anal Sex x ERQ Reappraisal	-0.28 (1.12)	0.06 (1)	.804	0.76	0.08 to 6.75
Unwanted Touching x ERQ Suppression	-0.12 (0.29)	0.18 (1)	.671	0.88	0.50 to 1.55
Actual Oral Sex x ERQ Suppression	-0.39 (0.35)	1.21 (1)	.270	0.68	0.34 to 1.35
Actual Vaginal Sex x ERQ Suppression	0.45 (0.46)	0.96 (1)	.327	1.57	0.64 to 3.87
Actual Anal Sex x ERQ Suppression	-1.14 (1.22)	0.87 (1)	.350	0.32	0.03 to 3.50
Attempted Oral Sex x ERQ Suppression	0.59 (0.60)	0.96 (1)	.328	1.81	0.55 to 5.91
Attempted Vaginal Sex x ERQ Suppression	-0.31 (0.72)	0.18 (1)	.668	0.74	0.18 to 3.00
Attempted Anal Sex x ERQ Suppression	0.84 (1.26)	0.44 (1)	.506	2.31	0.20 to 2.20

Notes: NFA = need for affect; ERQ = emotion regulation questionnaire, *B* = regression coefficient, χ^2 = chi squared, SE = standard error; OR = odds ratio; CI = confidence interval

The results of the logistic regression for ODUHS indicated model fit was acceptable, Hosmer & Lemeshow χ^2 (8) = 4.24, p = .83. Model results suggest that predictors did not account for statistically significant variance in health services usage, χ^2 (45) = 58.91, p = .08, Cox & Snell R^2 = .006, Nagelkerke R^2 = .026. There were no significant main effects (see Table III.12 for regression statistics).

Table III.12.

Logistic Regression Model Predicting Health Service Usage

Variable	*B* (*SE B*)	χ^2 (df)	*p*-value	OR	OR 95% CI
Constant	3.45 (0.07)	2299.33 (1)	< .001	31.41	-
Unwanted Touching	0.43 (0.34)	1.57 (1)	.210	1.54	0.78 to 3.02
Actual Oral Sex	-0.71 (0.42)	2.88 (1)	.089	0.49	0.21 to 1.12
Actual Vaginal Sex	0.20 (0.52)	0.15 (1)	.695	1.22	0.44 to 3.37
Actual Anal Sex	-0.93 (2.59)	0.13 (1)	.719	0.39	0.06 to 5.07
Attempted Oral Sex	0.32 (0.48)	0.45 (1)	.500	1.38	0.54 to 3.52
Attempted Vaginal Sex	-0.23 (0.61)	0.14 (1)	.703	0.79	0.24 to 2.64
Attempted Anal Sex	-0.58 (1.13)	0.27 (1)	.605	0.56	0.06 to 5.07
Total Weekly Drinks	0.09 (0.07)	1.86 (1)	.172	1.10	0.96 to 1.26
Depression	0.11 (0.11)	1.07 (1)	.301	1.12	0.90 to 1.39
Anxiety	-0.03 (0.11)	0.08 (1)	.780	0.97	0.79 to 1.19
Stress	-0.06 (0.12)	0.28 (1)	.595	0.94	0.75 to 1.18
PTSD	-0.06 (0.11)	0.25 (1)	.617	0.94	0.75 to 1.18
Suicide Risk	-0.06 (0.08)	0.62 (1)	.429	1.13	0.81 to 1.10
NFA Approach	0.12 (0.09)	1.84 (1)	.175	1.09	0.95 to 1.35
NFA Avoidance	0.09 (0.10)	0.81 (1)	.367	0.93	0.90 to 1.33
ERQ Reappraisal	-0.07 (0.07)	0.94 (1)	.333	0.96	0.80 to 1.08
ERQ Suppression	-0.04 (0.08)	0.18 (1)	.674	1.54	0.82 to 1.14
Unwanted Touching x NFA Approach	0.42 (0.52)	0.66 (1)	.417	1.53	0.55 to 4.27
Actual Oral Sex x NFA Approach	0.31 (0.51)	0.38 (1)	.540	1.37	0.50 to 3.70
Actual Vaginal Sex x NFA Approach	0.35 (0.85)	0.17 (1)	.678	1.43	0.27 to 7.60
Actual Anal Sex x NFA Approach	-11.37 (22.16)	0.26 (1)	.608	0.00	0.00 to 8.44 [E13]
Attempted Oral Sex x NFA Approach	0.76 (0.70)	1.20 (1)	.273	2.14	0.55 to 8.39
Attempted Vaginal Sex x NFA Approach	-0.85 (0.59)	2.08 (1)	.149	0.42	0.13 to 1.36
Attempted Anal Sex x NFA Approach	-0.68 (5.70)	0.01 (1)	.905	0.50	0.00 to 36143.89
Unwanted Touching x NFA Avoidance	0.74 (0.48)	2.37 (1)	.124	2.10	0.82 to 5.39
Actual Oral Sex x NFA Avoidance	0.38 (0.54)	0.48 (1)	.489	1.46	0.50 to 4.22
Actual Vaginal Sex x NFA Avoidance	-0.10 (1.02)	0.01 (1)	.920	0.90	0.12 to 6.65

Table III.12. Continued

Variable	*B* (*SE B*)	χ^2 (df)	*p*-value	OR	OR 95% CI
Actual Anal Sex x NFA Avoidance	4.82 (8.60)	0.31 (1)	.575	124.44	0.00 to 2.62 [E9]
Attempted Oral Sex x NFA Avoidance	0.16 (1.02)	0.02 (1)	.876	1.17	0.16 to 8.66
Attempted Vaginal Sex x NFA Avoidance	-0.29 (0.94)	0.09 (1)	.759	0.75	0.12 to 4.75
Attempted Anal Sex x NFA Avoidance	-0.81 (2.04)	0.16 (1)	.692	0.44	0.01 to 24.43
Unwanted Touching x ERQ Reappraisal	0.05 (0.40)	0.02 (1)	.897	1.05	0.78 to 2.32
Actual Oral Sex x ERQ Reappraisal	-0.31 (0.42)	0.56 (1)	.454	0.73	0.32 to 1.66
Actual Vaginal Sex x ERQ Reappraisal	-0.08 (0.54)	0.02 (1)	.879	0.92	0.32 to 2.65
Actual Anal Sex x ERQ Reappraisal	1.82 (1.21)	2.27 (1)	.132	6.19	0.58 to 66.48
Attempted Oral Sex x ERQ Reappraisal	0.24 (0.51)	0.21 (1)	.644	1.27	0.46 to 3.47
Attempted Vaginal Sex x ERQ Reappraisal	-0.12 (0.46)	0.06 (1)	.798	0.89	0.36 to 2.18
Attempted Anal Sex x ERQ Reappraisal	-2.04 (2.27)	0.81 (1)	.368	0.13	0.00 to 11.08
Unwanted Touching x ERQ Suppression	-0.17 (0.32)	0.29 (1)	.591	0.84	0.45 to 1.58
Actual Oral Sex x ERQ Suppression	-0.14 (0.39)	0.12 (1)	.726	0.87	0.41 to 1.87
Actual Vaginal Sex x ERQ Suppression	0.16 (0.57)	0.08 (1)	.783	1.17	0.38 to 3.58
Actual Anal Sex x ERQ Suppression	-1.69 (2.18)	0.60 (1)	.438	0.18	0.00 to 13.24
Attempted Oral Sex x ERQ Suppression	0.79 (0.71)	1.25 (1)	.263	2.21	0.55 to 8.89
Attempted Vaginal Sex x ERQ Suppression	-0.46 (0.68)	0.46 (1)	.499	0.63	0.16 to 2.40
Attempted Anal Sex x ERQ Suppression	0.77 (1.88)	0.17 (1)	.683	2.15	0.05 to 85.14

Notes: NFA = need for affect; ERQ = emotion regulation questionnaire, *B* = regression coefficient, χ^2 = chi squared, SE = standard error; OR = odds ratio; CI = confidence interval

The results of the logistic regression for ODUWC indicated model fit was acceptable, Hosmer & Lemeshow χ^2 (8) = 5.45, p = .71. Model results suggest that predictors did not account for statistically significant variance in ODUWC usage, χ^2 (45) = 59.22, p = .08, Cox & Snell R^2 = .006, Nagelkerke R^2 = .022. There were no significant main effects (see Table III.13 for regression statistics).

Table III.13.

Logistic Regression Model Predicting Women's Center Usage

Variable	*B* (*SE B*)	χ^2 (df)	*p*-value	OR	OR 95% CI
Constant	3.16 (0.06)	2527.73 (1)	< .001	23.53	-
Unwanted Touching	0.07 (0.26)	0.07 (1)	.785	1.07	0.64 to 1.81
Actual Oral Sex	0.12 (0.37)	0.11 (1)	.736	1.13	0.55 to 2.32
Actual Vaginal Sex	-0.30 (1.20)	0.52 (1)	.470	0.74	0.33 to 1.66
Actual Anal Sex	0.33 (1.20)	0.07 (1)	.786	1.39	0.13 to 14.68
Attempted Oral Sex	0.09 (0.40)	0.05 (1)	.822	1.09	0.50 to 2.41
Attempted Vaginal Sex	-0.01 (0.56)	0.00 (1)	.988	0.99	0.33 to 2.69
Attempted Anal Sex	-0.29 (0.70)	0.17 (1)	.677	0.75	0.19 to 2.94
Total Weekly Drinks	-0.01 (0.06)	0.01 (1)	.920	0.99	0.89 to 1.11
Depression	0.04 (0.10)	0.22 (1)	.641	1.05	0.87 to 1.26
Anxiety	0.01 (0.09)	0.01 (1)	.910	1.01	0.84 to 1.21
Stress	-0.05 (0.10)	0.25 (1)	.615	0.95	0.78 to 1.16
PTSD	-0.02 (0.10)	0.05 (1)	.826	0.98	0.80 to 1.19
Suicide Risk	-0.04 (0.07)	0.32 (1)	.571	0.96	0.84 to 1.10
NFA Approach	0.11 (0.08)	1.93 (1)	.164	1.12	0.96 to 1.31
NFA Avoidance	0.12 0.09)	1.83 (1)	.176	1.13	0.95 to 1.35
ERQ Reappraisal	0.01 (0.06)	0.03 (1)	.853	1.01	0.89 to 1.15
ERQ Suppression	-0.04 (0.07)	0.34 (1)	.558	0.96	0.83 to 1.11
Unwanted Touching x NFA Approach	0.21 (0.43)	0.23 (1)	.628	1.23	0.53 to 2.85
Actual Oral Sex x NFA Approach	0.56 (0.42)	1.72 (1)	.189	1.75	0.76 to 4.01
Actual Vaginal Sex x NFA Approach	-0.40 (0.70)	0.33 (1)	.566	0.67	0.17 to 2.65
Actual Anal Sex x NFA Approach	-1.03 (2.66)	0.15 (1)	.700	0.36	0.00 to 65.70
Attempted Oral Sex x NFA Approach	0.48 (0.62)	0.60 (1)	.438	1.61	0.48 to 5.40
Attempted Vaginal Sex x NFA Approach	-0.24 (0.52)	0.22 (1)	.640	0.78	0.28 to 2.18
Attempted Anal Sex x NFA Approach	0.43 (2.51)	0.03 (1)	.864	1.54	0.01 to 209.60
Unwanted Touching x NFA Avoidance	0.23 (0.41)	0.33 (1)	.566	1.26	0.57 to 2.80
Actual Oral Sex x NFA Avoidance	0.60 (0.46)	1.68 (1)	.195	1.82	0.74 to 4.50
Actual Vaginal Sex x NFA Avoidance	-0.26 (0.77)	0.11 (1)	.739	0.77	0.17 to 3.52

Table III.13. Continued

Variable	*B* (*SE B*)	χ^2 (df)	*p*-value	OR	OR 95% CI
Actual Anal Sex x NFA Avoidance	-0.26 (1.91)	0.02 (1)	.893	0.77	0.02 to 32.65
Attempted Oral Sex x NFA Avoidance	-0.10 (0.88)	0.01 (1)	.906	0.90	0.16 to 5.03
Attempted Vaginal Sex x NFA Avoidance	-0.07 (0.82)	0.01 (1)	.928	0.93	0.19 to 4.64
Attempted Anal Sex x NFA Avoidance	-0.28 (1.38)	0.04 (1)	.838	0.75	0.05 to 11.20
Unwanted Touching x ERQ Reappraisal	-0.18 (0.33)	0.29 (1)	.588	0.84	0.44 to 1.59
Actual Oral Sex x ERQ Reappraisal	-0.19 (0.36)	0.28 (1)	.596	0.83	0.41 to 1.67
Actual Vaginal Sex x ERQ Reappraisal	0.19 (0.45)	0.18 (1)	.672	1.21	0.50 to 2.90
Actual Anal Sex x ERQ Reappraisal	0.57 (0.85)	0.45 (1)	.501	1.77	0.34 to 9.28
Attempted Oral Sex x ERQ Reappraisal	0.28 (0.45)	0.40 (1)	.526	1.33	0.55 to 3.18
Attempted Vaginal Sex x ERQ Reappraisal	-0.34 (0.47)	0.53 (1)	.467	0.71	0.28 to 1.79
Attempted Anal Sex x ERQ Reappraisal	-0.28 (1.10)	0.06 (1)	.798	0.75	0.09 to 6.48
Unwanted Touching x ERQ Suppression	-0.14 (0.27)	0.27 (1)	.601	0.87	0.50 to 1.48
Actual Oral Sex x ERQ Suppression	-0.30 (0.35)	0.72 (1)	.397	0.74	0.37 to 1.48
Actual Vaginal Sex x ERQ Suppression	0.09 (0.44)	0.04 (1)	.838	1.09	0.46 to 2.59
Actual Anal Sex x ERQ Suppression	-0.41 (0.91	0.20 (1)	.651	0.66	0.11 to 3.92
Attempted Oral Sex x ERQ Suppression	0.48 (0.59)	0.65 (1)	.420	1.61	0.50 to 5.15
Attempted Vaginal Sex x ERQ Suppression	0.20 (0.61)	0.11 (1)	.741	1.22	0.37 to 4.06
Attempted Anal Sex x ERQ Suppression	0.08 (0.86)	0.01 (1)	.921	1.09	0.20 to 5.90

Notes: NFA = need for affect; ERQ = emotion regulation questionnaire, *B* = regression coefficient, χ^2 = chi squared, SE = standard error; OR = odds ratio; CI = confidence interval

The results of the logistic regression for off campus services indicated model fit was acceptable, Hosmer & Lemeshow χ^2 (8) = 6.73, p = .57. Model results suggest that predictors did not account for statistically significant variance in off campus service usage, χ^2 (45) = 60.50, p = .06, Cox & Snell R^2 = .006, Nagelkerke R^2 = .028. There were no significant main effects (see Table III.14 for regression statistics).

Table III.14.

Logistic Regression Model Predicting Off Campus Health Service Usage

Variable	*B* (*SE B*)	χ^2 (df)	*p*-value	OR	OR 95% CI
Constant	3.31 (0.07)	2373.40 (1)	< .001	27.52	-
Unwanted Touching	0.48 (0.34)	2.00 (1)	.157	1.62	0.83 to 3.17
Actual Oral Sex	-0.68 (0.41)	2.73 (1)	.098	0.51	0.23 to 1.13
Actual Vaginal Sex	0.00 (0.51)	0.00 (1)	.992	0.99	0.36 to 2.71
Actual Anal Sex	-1.24 (1.03)	1.46 (1)	.226	0.29	0.04 to 2.16
Attempted Oral Sex	0.15 (0.46)	0.11 (1)	.740	1.16	0.47 to 2.87
Attempted Vaginal Sex	-0.04 (0.59)	0.00 (1)	.950	0.96	0.30 to 3.09
Attempted Anal Sex	-0.03 (0.99)	0.00 (1)	.973	0.97	0.14 to 6.75
Total Weekly Drinks	-0.03 (0.06)	0.23 (1)	.633	0.97	0.86 to 1.10
Depression	-0.01 (0.10)	0.02 (1)	.900	0.99	0.80 to 1.21
Anxiety	0.05 (0.10)	0.25 (1)	.615	1.05	0.86 to 1.29
Stress	-0.07 (0.11)	0.47 (1)	.493	0.93	0.75 to 1.15
PTSD	0.09 (0.11)	0.62 (1)	.430	1.09	0.88 to 1.35
Suicide Risk	-0.01 (0.07)	0.01 (1)	.933	1.00	0.86 to 1.15
NFA Approach	0.14 (0.09)	0.04 (1)	.108	1.15	0.97 to 1.37
NFA Avoidance	0.08 (0.10)	0.39 (1)	.409	1.08	0.90 to 1.31
ERQ Reappraisal	-0.01 (0.07)	2.00 (1)	.841	0.99	0.86 to 1.13
ERQ Suppression	-0.05 (0.08)	2.74 (1)	.532	0.95	0.81 to 3.17
Unwanted Touching x NFA Approach	0.85 (0.57)	2.25 (1)	.134	2.34	0.77 to 7.09
Actual Oral Sex x NFA Approach	0.32 (0.54)	0.34 (1)	.558	1.37	0.48 to 3.96
Actual Vaginal Sex x NFA Approach	-0.14 (0.80)	0.03 (1)	.864	0.87	0.18 to 4.17
Actual Anal Sex x NFA Approach	-7.97 (4.76)	2.80 (1)	.094	0.00	0.00 to 3.91
Attempted Oral Sex x NFA Approach	0.42 (0.64)	0.43 (1)	.511	1.52	0.44 to 5.30
Attempted Vaginal Sex x NFA Approach	-0.70 (0.60)	1.37 (1)	.242	0.50	0.15 to 1.60
Attempted Anal Sex x NFA Approach	6.94 (4.68)	2.20 (1)	.138	1031.41	0.11 to 9973 [E4]
Unwanted Touching x NFA Avoidance	0.21 (0.47)	0.19 (1)	.659	1.23	0.49 to 3.13
Actual Oral Sex x NFA Avoidance	0.55 (0.51)	1.15 (1)	.284	1.73	0.63 to 4.70
Actual Vaginal Sex x NFA Avoidance	-0.14 (0.86)	0.03 (1)	.867	0.87	0.16 to 4.65

Table III.14. Continued

Variable	*B* (*SE B*)	χ^2 (df)	*p*-value	OR	OR 95% CI
Actual Anal Sex x NFA Avoidance	1.30 (2.20)	0.35 (1)	.554	3.69	0.05 to 277.62
Attempted Oral Sex x NFA Avoidance	0.53 (1.04)	0.26 (1)	.608	1.70	0.22 to 1312
Attempted Vaginal Sex x NFA Avoidance	-0.52 (0.97)	0.29 (1)	.590	0.59	0.09 to 3.94
Attempted Anal Sex x NFA Avoidance	-0.62 (1.61)	0.15 (1)	.698	0.53	0.02 to 12.60
Unwanted Touching x ERQ Reappraisal	-0.15 (0.36)	0.18 (1)	.670	0.86	0.43 to 1.73
Actual Oral Sex x ERQ Reappraisal	-0.63 (0.40)	2.51 (1)	.113	0.53	0.24 to 1.16
Actual Vaginal Sex x ERQ Reappraisal	0.45 (0.45)	1.00 (1)	.318	1.56	0.65 to 3.76
Actual Anal Sex x ERQ Reappraisal	0.18 (0.98)	0.04 (1)	.850	1.20	0.18 to 8.17
Attempted Oral Sex x ERQ Reappraisal	0.45 (0.50)	0.83 (1)	.361	1.57	0.60 to 4.16
Attempted Vaginal Sex x ERQ Reappraisal	0.03 (0.47)	0.00 (1)	.951	1.03	0.41 to 2.57
Attempted Anal Sex x ERQ Reappraisal	-0.67 (1.28)	0.27 (1)	.601	0.51	0.04 to 6.30
Unwanted Touching x ERQ Suppression	0.36 (0.31)	1.36 (1)	.243	1.44	0.78 to 2.64
Actual Oral Sex x ERQ Suppression	-0.60 (0.38)	2.53 (1)	.111	0.55	0.26 1.15
Actual Vaginal Sex x ERQ Suppression	0.37 (0.51)	0.52 (1)	.469	1.45	0.53 to 3.95
Actual Anal Sex x ERQ Suppression	-0.54 (1.03)	0.28 (1)	.598	0.58	0.08 to 4.37
Attempted Oral Sex x ERQ Suppression	0.23 (0.63)	0.13 (1)	.714	1.26	0.37 to 4.30
Attempted Vaginal Sex x ERQ Suppression	-0.13 (0.65)	0.04 (1)	.837	0.87	0.25 to 3.11
Attempted Anal Sex x ERQ Suppression	0.13 (0.96)	0.02 (1)	.896	1.13	0.17 to 7.52

Notes: NFA = need for affect; ERQ = emotion regulation questionnaire, *B* = regression coefficient, χ^2 = chi squared, SE = standard error; OR = odds ratio; CI = confidence interval.

Discussion

Review of the Findings

Approximately one in five college women experience sexual victimization (Krebs et al., 2016) during the academic year. The current study examined both overall prevalence rates of sexual victimization over a 12-month period, and examined actual and attempted acts of sexual violence. Approximately 39% of the study sample reported being a victim of an attempted or actual sexual victimization (i.e., attempted vaginal sex, actual anal sex) over the past twelve months. The findings are notably higher than rates reported in other national studies (e.g., Cantor et al., 2015; Krebs et al., 2007). Krebs and colleagues (2007) found 19% of undergraduate women to be the victims of attempted or completed sexual violence since entering college, while Cantor and colleagues (2015) reported that 18.3% of female undergraduates were a victim of completed or attempted sexual violence since entering college. Possible explanations for this discrepancy include inconsistencies in how sexual violence is measured and a lack of a uniform definition for sexual victimization (Stoner & Cramer, 2017). For example, the present study utilized the SES-SFV to measure victimization over the past 12 months. Contrary to this, the sexual victimization screening utilized by Krebs and colleagues (2007) was an investigator-developed survey tool consisting of 10 questions, only two of which specifically addressed unwanted sexual contact. The other questions focused on sexual victimization in the context of drug and alcohol use, incapacitation and physical force. Cantor and colleagues (2015) utilized a modified version of the SES consisting of nine questions. Although each question addressed unwanted sexual contact, the emphasis of the victimization experience was placed on the type of coercion used (i.e., verbal, physical, drug-induced) rather than victimization type (i.e., oral, vaginal, anal sex). The variety of measures used could account for the wide variation in

victimization rates between studies, especially among those that put an emphasis on drug and alcohol use, as this has been a documented deterrent to disclosing a victimization experience (Stoner & Cramer, 2017). The timing of this survey may also have played a role in the increased rates of victimization. The present survey was launched, by coincidence, one month prior to the historic anti-sexual assault movement, #MeToo, that garnered media attention in October of 2017. As the movement gained momentum, responses to the survey continued to increase. The #MeToo movement is credited with giving victims a voice and encouraging all people to speak out against sexual violence (Yaqub, 2017). If the study sample mirrored the general population during this timeframe, they may have been more inclined to provide input on both victimization experiences and overall health and well-being at higher rates than before due to a sense of empowerment.

The American College Health Association (ACHA; 2018) reported the frequency of sexual violence by type of victimization over a twelve-month period using data from the ACHA-National College Health Assessment (NCHA). The results were as follows: 12.4% of victims reported unwanted touching, 5.1% reported attempted penetration (i.e., oral, vaginal, or anal penetration) and 3.2% reported actual penetration. Using a similar set of definitions, the current study found the following: 11.7% of victims reported unwanted touching, 13.1% reported attempted penetration, and 14.3% of victims reported actual penetration. Compared to the NCHA, the sample in the present study reported similar rates for incidents involving unwanted touching, but significantly higher incidences of attempted and actual penetration. This difference could be due, in part, to sampling techniques. While the present study asked about each type of victimization separately, the 2017 NCHA survey combined all types of penetration, separating the questions only by actual and attempted penetration. Combining the sexual victimization

questions into three main categories versus the nine examined in the present study could have accounted for the lower rates of victimization reported in the NCHA survey. In addition, random sampling techniques were used in the analysis of the NCHA, whereas participants self-selected into the present study. The process of self-selection could potentially explain the higher rates of victimization in the present study, as those who selected to take the survey may have been more willing to discuss student well-being and health service use. This again, may be in part to the timing of this study running parallel to the #MeToo movement.

Despite high rates of sexual victimization, the rates of use for on-campus health resources ranged from 6.8% (women's center) to 26.9% (student health). These rates of usage fall within the scope of previous literature showing the rates of health services utilization among college student victims. Stoner and Cramer (2017) reported utilization rates between 0% and 42% while Sabina and Ho (2015) reported an even smaller range of 0% to 15.8% use of student health services. More troubling, on average, only 16% of victims seek assistance from victim services (defined as information, emotional support, and other assistance; Sinozich & Langton, 2014). Overall, there appears to be a strikingly low frequency of usage of on-campus health resources.

This lack of utilization mirrors overall university-based medical and counseling services. A 2010 survey on the utilization of student health services (ACHA, 2010), revealed that less than half of all students (43% to 48%) utilized medical services on campus. Of importance, no further results could be generated from the data on any other type of health service utilization due to the low number of responses. Overall on-campus student health service use (ODU Health Services was 26.9%) in the present study was considerably lower, partially accounted for by the fact that off-campus health services was 18.5%. A separate study examining utilization of college counseling centers (Xiao et al., 2017), suggested an even lower percentage of mental health

service utilization; over a six-year study period, only 8.9% of the student body used counseling center services on an annual basis. These trends mirror the findings in the current study concerning counseling and related services. Students reporting actual use of the ODU Counseling Center was 13%, and ODU Women's Center was 6.8%. These low rates, combined with the ever-growing need for mental health services among this age-group has led to the current climate of collegiate mental health being dubbed as "crisis level" (Xiao, et al., 2017).

The current study also examined respondents' willingness to use health services. To date, limited research exists around students' willingness to utilize on-campus heath resources. Those studies that do exist mainly focus on *why* students do not use health services (i.e., barriers to use) rather than how willing they are to use these resources (e.g., Baptista & Zanon, 2017; Nash, Sixbey, An & Puig, 2017). Kahn and colleagues (1999) examined willingness to use counseling center services based on severity level of mental health symptoms. Between 7% and 37% of the student body were willing to use utilize counseling center services depending on the severity of their mental health concern (i.e., test anxiety, depression, suicide). The current study assessed willingness using a Likert-type scale. The average response ranged from 4.9 to 5.3 across type of services, suggesting that the study sample was just above *Willing* to use services on the seven-point scale. This is an important result, especially in light of the low percentage of students who actually use health services on campus. A high degree of willingness to use on-campus services suggests a positive campus climate regarding service providers and agencies.

Comparison studies using birth cohorts show that over the past thirty years, college students have reported increasingly higher scores on scales for depression, anxiety, and suicidal thoughts (Xiao et al., 2017). For instance, from 2000 to 2017, the prevalence rate of depression among female college students increased from 12.8% to 20.8% (ACHA, 2001, 2017). Further,

among those students actively involved with counseling center services, 49.7% indicated depression was a concern, with 18.6% listing it as their chief concern (Center for Collegiate Mental Health, 2018). These patterns are notably higher for anxiety. The current study sample reflects these trends in terms of mean DASS-21 scores. In short, mean scores place the present sample in the following symptom range categories: severe depression, extremely severe anxiety, and severe stress (Osman et al., 2012). It is critical to note that these interpretations are in comparison to general population adults, as opposed to clinical populations. Therefore, while these data suggest elevated mental health concerns, they should not be overstated with regard to extreme responses to mental health intervention (e.g., inpatient hospitalization). This is indicative of the growing problem among the national population of female college students.

Issues of suicide risk and post-traumatic stress symptoms are also somewhat concerning in the present sample. The 2017 NCHA reported that nearly 8% of college females seriously considered suicide within the past 12 months and 1.4% had attempted suicide. The current study found college females, on average to be just under the clinical cut-off for elevated suicide risk. The average score on the SBQ-R was 6.7 compared with a cut-off score of ≥ 7 (Osman et al., 2001). This score is notably higher than scores reported in similar studies. For instance, Hirsch and colleagues (2017) examined risk of suicide in the college population using the SBQ-R and reported an average score of 5.41. Further, Cramer and colleagues (2016) found a mean SBQ-R score of 4.89. The study sample also displayed elevated risk of post-traumatic stress symptoms, with a mean score of 40.18. Although the scoring rubric suggests that any score over 33 appears to be a reasonable for a clinical cut-off, further psychometric work must be done before any comment can be made (Weathers et al., 2013). These scores are reflective of patterns reported by CCMH (2018), where 12.4% of students noted trauma as a significant concern. Taken together,

the present sample appears beyond the stereotype of the college student "worried well" mirroring the trend of increasing college mental health concerns (Xiao et al., 2017).

Mental Health Model Main Results

Contrary to expectations, mental health outcomes were better accounted for by emotion science and demographic variables compared to victimization. Prior literature has supported a robust victimization-mental health link (e.g., Briere & Jordan, 2004; Campbell et al., 2009; Iverson et al., 2012), yet, the current study did not support prior research that suggests victimization results in negative mental health outcomes in the college-age population. This pattern has one notable exception in which reported experiences of unwanted touching was associated with higher weekly alcohol use, potentially reflecting a negative coping strategy. The large failure of victimization to account for mental health may be explained by the small subset of victims prior to data imputation, thereby limiting statistical power. Alternatively, other factors in the present study may be of greater importance in understanding college student mental health.

Of importance, for instance, is the large role that emotion science has on mental health outcomes. This was especially true when examining the role of emotion regulation on depression and symptoms of PTSD. For example, a robust moderately sized negative association between emotion suppression and negative mental health was observed. This is consistent with prior literature (Compas et al., 2017; Rawana, Flett, McPhie, Nguyen & Norwood, 2014), and likely suggests suppressing emotions may be implicated in internalizing mental health symptoms (e.g., sadness, avoidance, shame, guilt) indicative of depression or PTSD (APA, 2013). Also with regard to PTSD and depression, the ability to positively reframe negative thoughts (i.e., cognitive reappraisal) had a significant effect on the mental health outcome. Victims with high reappraisal

reported lower levels of depression, suggesting that persons with positive cognitive reframing skills are less likely to experience depressive symptoms.

An interesting effect emerged concerning post-traumatic stress symptoms among victims with high cognitive reappraisal skills. Typically, literature suggests that persons with higher cognitive reappraisal skills would be less likely to experience symptoms of PTSD; however, a suppression effect emerged, demonstrating that victims are more likely to experience symptoms of PTSD if they are high in cognitive reappraisal. In other words, the direction of the association between cognitive reappraisal and PTSD symptoms switched directions for victims compared to the overall sample. This pattern is explained by the idea that cognitive reappraisal may become a risk factor for the generation of certain cognitive aspects of PTSD symptoms (e.g., recurrent memories, flashbacks, negative self-thoughts; APA, 2013) for victims of attempted anal sex.

Health Service Use Model Main Results

No significant predictive effects were found for actual use of health services with respect to mental health or emotion science. One reason for this could be due to the low cell counts for actual use of health services (ranging from 6.8% for the women's center to 26.9% for health services). Meaningful effects were found regarding willingness to use health services. For example, hypothesis 5, which posited main effects of victimization on health service use, was partially supported. Attempted vaginal sex victimization was linked to decreased willingness to use all on-campus health services. The robust effect of a particular victimization subtype with lesser willingness to use health services may be due to documented reasons for victim under-reporting found in the literature. These include feelings of embarrassment, guilt and shame, the fear of family and friends finding out about the victimization, or thinking the victimization was not serious enough to report (Stoner & Cramer, 2017). Alternatively, following from hypothesis

7 expecting a victimization-emotion regulation interaction, emotion suppression provides possible explanation for level of willingness to use some services. For example, the interaction depicted in Figure III.2 shows that the combination of victimization and low emotion suppression is associated with notably low levels of willingness to use counseling services. Put another way, victims of attempted vaginal sex who were high in emotion suppression were more willing to use services on campus compared with those who were low in emotion suppression. This same idea held true for victims of actual oral sex and NFA approach (thereby partially supporting hypothesis 8). Victims who were low in approach, meaning they were unlikely to connect with their emotions, were more willing to utilize counseling services, health services, the women's center and off-campus services. Taken together, it is important to understand that while victimization and mental health may influence health service use, the foundational role of emotion science cannot be overlooked.

Mixed findings emerged concerning hypothesis 6 presuming mental health symptoms would drive greater willingness to use health services. For example, depression was linked to decreased willingness to use counseling and women's center services, while anxiety was linked to decreased willingness to use counseling services. Also, elevated suicide risk was linked to decreased willingness to use health services. On the contrary, stress was linked to increased willingness to use counseling services. The lower willingness to use services linked with internalizing mental health concerns could be accounted for by the stigma that surrounds mental health and use of mental health services (e.g., Pattyn, Verhaeghe, Sercu & Bracke, 2014; Wu et al., 2017;). College females may not want to be labeled as mentally ill and may further fear this if they are seen using a resource on campus that provides these services. Low rates of willingness could also be accounted for by isolation or social disconnectedness (e.g., withdrawal, feeling

rejected by others) which are common core elements of depression, anxiety and suicide risk (e.g., American Foundation for Suicide Prevention, 2018; APA, 2013; Van Orden et al., 2010). Such interpersonal disconnection may be a plausible explanation for avoiding social situations or personal interactions for fear of being negatively judged or rejected. For example, among a sample of college students who had seriously considered attempting suicide, negative reactions and perceived isolation from peers were two of the most cited reasons for not reaching out for help (Denmark, Hess & Becker, 2012). Avoidance behaviors may extend to service use, as seeking out formal help may exacerbate feelings of isolation, rejection, and fear of social criticism. Overall, college females experiencing greater mental health concerns being less willing to seek health services is a problem in need of further attention (see implications section below). Contrary to this, stress may be associated with an increased willingness to utilize services, as academic stress and the stress of fitting in socially are often viewed as within social norms (Leppink, Odlaug, Lust, Christenson & Grant, 2016), especially among the college population. As such, seeking out health resources to address these stressors may not come with the same stigma or perceived negativity that often surrounds depression, anxiety and suicide risk making students more open to seek out services.

A final pattern worth comment addresses effects of emotion science variables on willingness to use health services. With regard to emotion regulation, high cognitive reappraisal was associated with increased willingness to use all on-campus and off-campus resources, suggesting that individuals with better coping skills were more likely to seek out services when needed. High emotion suppression was associated with decreased willingness to use health services and the women's center. This finding suggests that individuals who were high in emotional suppression (i.e., ability to conceal their emotions), were less willing to utilize

resources. Finally, with regard to NFA, high approach was linked to increased willingness to utilize counseling and health services, women's center services, and off-campus services. Similar to cognitive reappraisal, individuals who were high in approach were also more willing to seek out health resources. Overall, there is a pattern of increased willingness to use health services among college students who have better coping skills and are high in NFA approach. Literature has suggested that students with strong positive coping skills are more likely to support the use of counseling and health services (Kroshus, 2017). Individuals high in cognitive reappraisal and NFA approach are more likely to engage with, and approach their emotions (Cramer et al., 2016; Gross, 1998). This acknowledgment of emotion may lead to increased willingness to seek out formal health resources to work through each emotion. This explanation could account for the findings of the current study, as the sample displayed strong emotional connectedness, resulting in increased willingness to utilize the resources available.

Implications

The present study holds implications for public health practice, health service delivery, health behavior theory, and policy. Regarding public health practice, results from the present study suggest an ongoing need for sexual victimization identification and prevention programs on college campuses. In 2016, at least 36 prevention programs existed for college and university campuses (NASPA, 2016), ranging from online programs to in-person workshops. A number of programs provided training for students, faculty and staff (e.g., Haven, 2018; GetInclusive, n.d.), while others targeted specific populations such as first-year undergraduate students (e.g., United Educators, 2018) and students of color (e.g., CBKenterprises, 2016). Program content included survivor stories, (StudentSuccess; 2016), explanations of TitleIX (United Educators, 2018), consent and healthy relationships (Binghamton University, 2013), and bystander training

(University of New Hampshire, 2018). Among the most widely employed nationally are bystander programs, in which students are trained to intervene before a victimization occurs. Bystander programs have been successful in addressing a number of public health issues including bullying (Polanin, Espelage & Pigott, 2012), and more recently opioid overdose prevention (Giglio, Li & DiMaggio, 2015). Although bystander programs have been associated with increased willingness to prevent and intervene in violent behavior (Jouriles, Krauss, Vu, Banyard & McDonald, 2018), these types of programs fail to identify those in need of victim services (e.g., warning signs of sexual assault victimization). Further, trainees receive no information concerning how to appropriately receive a victim disclosure statement or how to assist peers who are seeking out formal resources.

Either augmenting existing sexual assault programs to include this type of training or developing new programs to address this skill set is crucial. These particular types of trainings already exist in the area of suicide prevention. For example, QPR (Question, Persuade, and Refer) Gatekeeper Training for Suicide Prevention (Suicide Prevention Resource Center, 2012) trains individuals on the warning signs of suicide, how to best respond to the individual and persuade them to seek assistance, and how to refer them to the best health resource. Early program evaluation of such gatekeeper programs demonstrate promise in strengthening student and community member confidence and abilities to engage and assist in health service referral (e.g., Pullen et al., 2016; Silva et al., 2016). A similar program could be modeled around sexual victimization, where peers are trained as gatekeepers. This may be the ideal population for this training, as sexual victimization literature suggests that college female sexual assault victims are most likely to disclose or seek help from informal sources (i.e., friends, roommate, peers; Stoner & Cramer, 2017; Sabina & Ho, 2014). Further, this population is more likely to seek additional

assistance from formal sources (i.e., campus counseling center, student health) after receiving a positive response during the initial disclosure and encouragement from friends to utilize formal resources (Stoner & Cramer, 2017). The implementation of a gatekeeper training program would benefit the entire campus community, not just victims. In addition to providing an extra level of identification and intervention, it also has the potential to build connectedness on college campuses. Such implementation would necessitate rigorous program evaluation as well.

The need for formal services is not limited to female college students who have been victims of sexual assault. The number of undergraduate students seeking counseling services grew by nearly 40% between 2010 and 2015 (CCMH, 2018), and students are presenting with increased severity of mental health symptoms (Smith et al., 2017). This has resulted in an increased demand for services that college counseling centers are struggling to meet (CCMH, 2017& Cornish et al., 2017). Results from the present study indicate that undergraduate female students are living with elevated levels of depression, anxiety and stress, mirroring a general trend that may be facing struggles similar to other collegiate counseling centers across the country. In an effort to address these challenges, many universities have developed programs that focus on the early identification of mental health symptoms. Early identification programs recognize the initial warning signs and provide treatment options based on symptoms. One of the easiest ways to identify early signs is through universal mental health screenings. Colleges and universities have implemented screenings in a number of ways (e.g., free online screenings). The majority of free mental health screenings coincide with campus wide prevention weeks, focused on mental health awareness. Under these circumstances, the screenings are almost always held in a public location. Yet, due to the continued stigma that surrounds mental health and mental

health service use (Wu et al., 2017), it is unclear if students are taking advantage of these opportunities.

Mindfulness programs, specifically mindfulness-based stress reduction (MBSR; Kabat-Zinn, 1982) have shown promise in reducing mental health symptoms (Chiesa & Serretti, 2009; Strauss, Cavanagh, Oliver & Pettman, 2014). MBSR is a structured, eight-week program that teaches people how to live healthy lives and take better care of themselves (Santorelli, 2014). In the college population, these programs have demonstrated significant benefits for stress reduction and general psychological distress (e.g., Canby, Cameron, Calhoun, Buchanan, 2014; Oman, Shapiro, Thoresen, Plante & Flinders, 2008). MBSR programs could be built into the student curriculum as part of a freshman well-being seminar. This would equip students with appropriate tools should they encounter difficult situations during the remainder of their undergraduate years. Another option is to offer this workshop through collegiate counseling services, making it available to all students.

A second area of implication for this study surrounds the actual delivery of health services on campus. While the general college population is displaying an overall increase in use of services (CCMH, 2018) the current study revealed that among college females, elevated mental health symptoms were associated with lesser willingness to seek services. This was also true for female undergraduate victims of attempted vaginal sexual assault. The current study suggests that cognitive and emotion-related individual differences may play an important role in the potential use of health service among college females. Those high in cognitive reappraisal (i.e., ability to positively reframe negative thoughts) were more willing to use campus resources. The same was true for females with high NFA approach. Emotion regulation and NFA findings and concepts could also be used as educational content to identify persons in need of counseling

services, especially those who may be less willing to seek out services (i.e., victims of attempted vaginal assault and females with elevated mental health symptoms). Educational outreach programming could be offered to students free of charge through campus outreach programs (e.g., in dorm or student center settings) toward the goal of promoting awareness and insight for those who may need services.

Cognitive reappraisal and NFA approach also point to potential the importance of developing positive coping skills. Sontag-Padilla and colleagues (2016) examined the influence of positive coping skills on mental health service use among college students and found that students with positive coping skills were consistently more likely to use campus mental health when compared to students with negative coping skills. Additional literature has supported these findings (e.g., Savoji & Ganji, 2013), suggesting that students who participate in these programs had improved mental health symptoms and were more aware of the mental health resources on campus. Integrating coping skills and emotions content into college campus programming may be a promising avenue to build on. For example, campus outreach programs focused on healthy coping skills and emotion could be offered during freshman orientation, dorm gatherings, and Greek life chapter meetings. Further, psychoeducational and interactive programs focused on positive coping skills could be developed and made available to students. At the same time, and of equal importance, the collegiate health staff may also benefit from training on the intersection of victimization, emotional individual differences, mental health, and health service use. Such training may highlight the role of emotional individual differences play in mental health symptoms and willingness to use health services.

The literature around college student victimization and health service use has been largely a-theoretical. A third implication of this study is the need for ongoing research around

emotion science as it relates to both sexual victimization and health service use. The current study examined two constructs of emotion science: emotion regulation (Gross, 1998; Gross & John, 2003) and NFA (Appel et al., 2012; Maio & Esses, 2001). Emotion regulation has been studied extensively in the mental health literature (e.g., Aldao, Nolen-Hoeksema & Schweiser, 2010; Hu et al., 2014; Webb, Miles & Sheeran, 2012), yet little existed on sexual victimization and health service use. The current study explored the victim-emotion regulation interaction and found an association between emotion suppression and willingness to use services among victims of sexual violence. NFA and mental health has also been examined in prior literature only with respect to suicide (Cramer et al., 2016; 2017), and similar to emotion regulation, NFA's association with victimization and health service use was not previously examined. The current study explored the victim-need for affect interaction and found an association between NFA approach and willingness to use service, among victims of sexual violence. This is the first study that tests these emotion science constructs for their impact on mental health and health service use. These are significant findings and have implications for college student health, programming and research moving forward. The current study suggests that college students, specifically victims, who display positive coping skills are more likely to seek out health services. This is an important finding; college female undergraduate students are already at heightened risk for sexual victimization (Sinozich & Langton, 2014) and are at risk for increased mental health symptoms due to being away from home for the first time (Arnett, 2000). Identifying theory-based protective factors for this population is crucial to the development of prevention and intervention programs for this population. Because this is the first study of its kind additional studies applying emotion regulation and NFA frameworks are warranted in

striving to understand and develop programming for victimization, mental health, and health service use on college campuses.

Present findings may also affect college campus policy. In April 2011, under the Obama Administration, the Office of Civil Rights (OCR) issued new guidelines around Title IX, the discrimination clause of the Education Amendments Act of 1972 (Department of Justice, 2015). The new guidelines called for educational environments to be free from sexual violence and for colleges to improve the way sexual assault cases were handled on campus. Six years after the new guidelines were released, they were revoked by the Trump administration, allowing for colleges to use discretion when handling allegations of sexual victimization on campus (Department of Justice, 2015). More specifically, the new Title IX guidance now permits colleges to set their own standards when dealing with cases of sexual assault. Should this approach continue, prevalence rates of sexual victimization need to be addressed through other avenues. Due to the elevated rates of sexual violence and the low rates of reporting to campus police (Sabina & Ho, 2015), it may be beneficial to retrain campus law enforcement on the signs of sexual victimization and how to intervene during a sexual assault. Further, this training should include best practices in how to receive a victim disclosure statement and the most effective way to refer them to a health service provider. In addition, the validity of the national data is at risk once colleges are able to individually decide how to handle cases of sexual assault. For instance, without a uniformed way of collecting and reporting victimization data, it is impossible to understand and compare victimization trends from one campus to another. As part of the new policy, it would be ideal to collect and report on sexual violence along the behavioral definition of sexual victimization. Finally, with the future of Title IX uncertain, it is important to have a clear expectation among campus administrators regarding episodes of sexual victimization.

Further, the school's policies and guidelines should be made publicly available and accessible to all students.

Limitations, Future Directions and Conclusions

The following are noted limitations in this study. First, the survey was advertised as examining student well-being and health service use; further, participants self-selected into the study based on this description. The sample was all female with the majority identifying as white, non-Hispanic and heterosexual. As such, the results may not be generalizable to the larger collegiate population. Second, the survey was a single time-point retrospective design. While this method did produce meaningful information, it did not afford the opportunity to establish any causal relationships. The survey also relied on self-report data. This is an important note as participants were asked to recall sensitive information. Because it was self-report, there is potential for a number of biases including selective memory, telescoping and exaggeration (McGregor, 2017). Further, the survey was hosted online and required that participants had access to the internet. Although all students on ODU's main campus have internet access, distance students and students living off-campus may not have internet readily accessible, prohibiting them from accessing the survey. Other factors that may have influenced the outcome of the survey are the unique characteristics of the survey population. ODU has a regional presence, pulling mostly from Virginia and North Carolina, and politically, the region is traditionally conservative. Although this was not reflected in the sample, this may have been a reason that others did not participate in the survey; the sexual nature of the questions may have deterred some from participating in the survey to begin with. Finally, a relevant national historical event, the #MeToo movement, occurred during data collection, potentially influencing participants' willingness to acknowledge victimization.

Future research would benefit from prospective and longitudinal approaches. This method would allow for a better understanding of causal relationships and trajectories of sexual victimization with emotion science factors, mental health and health service use. Such data would assist with designing prevention and intervention efforts. Expanding this research to multiple campuses would also be beneficial. The current study was limited to a regional sample with characteristics unique to the area. Deploying this survey to other areas of the country would enhance generalizability of findings. The current study defined sexual violence from a public health surveillance perspective through use of a set of specific behaviors. It is recommended moving forward, that all studies adopt this practice, as sexual victimization is a significant public health problem (CDC, 2018). Employing a universal definition for sexual violence would allow for comparison across studies. Further, consistent use of the SES as a means to measure sexual victimization may decrease the fluctuation in prevalence rates. The ideas of a universal definition and streamlined measurement tool are not unique, as many have called for similar changes (e.g., Bachman, 2012; Catalano, Harmon, Beck & Cantor, 2005). Finally, as previously mentioned because the current study coincided with the #MeToo movement, it is possible that more females were willing to participate in the study and report the victimization experience. Future research may examine pre-post effects of the movement on research- and other related outcomes.

CHAPTER FIVE

CONCLUSIONS

The overarching purpose of this dissertation was to examine sexual violence victimization, mental health and health service utilization among college females using an emotion science framework. The overall purpose was accomplished through a series of studies. The first study was a systematic review to examine the frequency of sexual victimization and the moderating characteristics of utilization of college-based health resources. The second study tested a coping-mental health framework for the prevention of suicide among sexual minority and heterosexual victims of assault sexual assault victims. The final study examined rates of sexual victimization and health service utilization in a sample population, examined the impact of mental health symptoms on health service use, and examined the rates of actual and willingness of health service use.

Article I provided a synthesis of the findings related to sexual victimization and health service use among females on college campuses. This research revealed high prevalence rates of sexual victimization (4.7% - 58%), and lower rates of health service utilization (0% - 42%; Stoner & Cramer, 2017). Further, the article identified barriers and facilitators to use. Barriers included feelings of shame, guilt and embarrassment, not wanting friends and family to find out, and thinking the victimization was not serious enough to report (Stoner & Cramer, 2017). Identified facilitators included acknowledging the sexual violence victimization as a crime, receiving encouragement from friends and family to utilize health services, and receiving a positive response during the initial informal disclosure (Stoner & Cramer, 2017). This article identified the need for a universal definition and measurement tool for sexual victimization and

provided suggestions for campus wide education and peer education programs for sexual victimization.

Article II was designed to examine the association of sexual assault with suicidality through a coping-mental health framework and to explore whether sexual orientation served as a moderating factor. The research revealed that sexual assault was associated with increased suicidality in the presence of mediation through coping and mental health. Further, a stronger association was noted between mental health problems and suicidality among sexual minority persons compared to heterosexual persons. This article identified the need for suicide intervention programming focused on improving coping skills and reducing symptoms of anxiety, depression, and post-traumatic stress, particularly for sexual minority persons.

Article III examined sexual violence and health service utilization rates on a college campus and the impact of mental health symptoms on health service utilization. This study examined sexual victimization and mental health from an emotion science framework, which included emotion regulation and need for affect (NFA). This study found notably higher rates of sexual victimization within the sample, when compared with national averages. While rates of health service use fell within the scope of previous literature, there appeared to be a low frequency of usage of on-campus resources within the sample, which also mirrors prior literature. Yet, the sample displayed a high degree of willingness to use campus-based health services, suggesting a positive campus climate regarding service providers and agencies. The current sample displayed elevated symptoms of depression, anxiety and stress and was just under the clinical cut-off for elevated suicide risk. Overall, mental health outcomes were better accounted for by emotion science and demographic variables, compared to victimization. There were no signification effects for actual use of health services with respect to mental health or

emotion science, but meaningful effects were found for willingness to use health services. Mixed findings emerged with regards to the association between mental health symptoms and willingness to use health services.

Of importance is the large role that emotion science had on both mental health and willingness to use health services outcomes. A robust moderately sized negative association between emotion suppression and negative mental health was observed. Further, high cognitive reappraisal was associated with increased willingness to use all on campus and off campus health resources. Further, with regard to NFA, high approach was linked to increased willingness to utilize counseling and health services, women's center services, and off-campus services. This article identified the need for augmenting or developing new training programs around sexual victimization that focus on peer education and training. Further the article identified the need for campus-wide programming around positive coping skills, based on the emotion science framework. The article supported free mental health screenings as a means for early identification on college campuses and identified challenges and opportunities surrounding the new Title IX language.

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APPENDICIES
APPENDIX A

OFFICE OF THE VICE PRESIDENT FOR RESEARCH

Physical Address
4111 Monarch Way, Suite 203
Norfolk, Virginia 23508
Mailing Address
Office of Research
1 Old Dominion University
Norfolk, Virginia 23529
Phone(757) 683-3460
Fax(757) 683-5902

DATE:	August 23, 2017
TO:	Robert Cramer, PhD
FROM:	Old Dominion University Institutional Review Board
PROJECT TITLE:	[1109061-1] College Student Well-Being and Health Service Use Survey
REFERENCE #:	17-182
SUBMISSION TYPE:	New Project
ACTION:	DETERMINATION OF EXEMPT STATUS
DECISION DATE:	August 23, 2017
REVIEW CATEGORY:	Exemption category # *2*

Thank you for your submission of New Project materials for this project. The Old Dominion University Institutional Review Board has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will retain a copy of this correspondence within our records.

If you have any questions, please contact Danielle Faulkner at (757) 683-4636 or dcfaulkn@odu.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Old Dominion University Institutional Review Board's records.

APPENDIX B

Informed Consent to Participate in Research

You are being asked to participate in a research study. This form provides you with information about the study. Your participation is entirely voluntary. You can refuse to participate at any time.

All individuals who are: a) 18 or older may participate.

Title of Research Study: College Student Well-Being and Health Service Use Survey

Responsible Project Investigator: Robert J. Cramer, Ph.D., Old Dominion University
Supporting Research Investigator: Julie Stoner, MS, MPH., Old Dominion University

Purpose of this study: We are interested in learning more about stress, health, and utilization of college-based health services on your college campus. Specifically, the survey you will complete asks for: a) demographic information (e.g., age, gender, race/ethnicity), b) stress-related experiences (e.g., sexual experiences, perceived stress), c) health and well-being (e.g., anxiety), and d) beliefs about use of health services on campus. Integration of such information will be used to understand and develop better education and programs around violence, stress and health on campus.

Time: Each data collection involves completing a questionnaire of approximately **20 to 25 minutes**.

Your role: If you decide to participate in this study, you will be asked to complete a questionnaire that includes information summarized above in the purpose of the study. After completion of the questionnaire you will be debriefed.

Possible discomfort or risk: The questionnaire asks you to provide information about your experiences with stress, health and well-being. Therefore, you may experience mild discomfort from some of the questions. If these questions make you feel uncomfortable, you may withdraw from participation at any time. Should you need assistance with your mental health, you can locate psychological services in your area via the American Psychological Association's Psychologist Locator (http://locator.apa.org). If you are experiencing any distress, please call the National Suicide Prevention Lifeline at 1-800-273-8255. In case of emergency, call 911. Alternatively, as students at Old Dominion University, you may call the ODU Counseling Services (Webb University Center, 1526 W 49th St, Norfolk, VA 23529; (757) 683-4401) or ODU Women's Center (1000 Webb University Center, Norfolk, VA 23529; (757) 683-4109) There are no additional foreseeable risks to you. If you wish to discuss the information above or any other risks you may experience, you may contact the principal investigator.

Benefits: There are no direct benefits to the participants. You will have the option to enter a gift card drawing at the completion of the survey, to receive one of thirty $25 Amazon gift cards.

Rights as a Research Participant: You are free to withdraw your consent and stop participation in this research study at any time without penalty.

Privacy and confidentiality: Your answers will be completely confidential. Consent forms are electronically signed. Students will self-identify a coded ID number that cannot be traced back to them. The questionnaire does not request any personally identifying information (i.e., name, email address, SSN, UIN, zip code), ensuring anonymity and confidentiality.
Your confidentiality will also be protected to the degree permitted by the technology being used. Data may exist on backups or server logs beyond the time frame of this research project. Nobody beyond the research team will have access to your data. However, authorized persons from Old Dominion University and members of the Protection of Human Subjects Committee have the legal right to review your anonymous research records, but will protect the confidentiality of those records to the extent permitted by law.
If the results of this research are published or presented at scientific meetings, no identifying information will be disclosed, as none will be collected.

Contact Information: If you have questions about your rights as a research participant, please contact the ODU Office of Research, at (757) 683-3460 or Dr. Tancy Vandecar-Burdin, Ph.D., IRB Chair, at (757) 683-3802 or tvandeca@odu.edu.

If you have any questions about the details of this research study, contact Robert J. Cramer, Ph.D., at (757) 683-3350 or via email at rcramer@odu.edu.

If you do not have any questions and would like to participate in this study, please click the button below to indicate your consent. Clicking through to the next page (i.e., study survey) implies your consent.

APPENDIX C

Debriefing Form

Dear Participant,

You have just participated in a study examining stress, health, well-being, and beliefs about use of health services on campus. Your valuable contribution is appreciated and will go a long way in aiding the understanding and development of better health education programs on campus and improving health service delivery.

Should you need assistance with your mental health, you can locate psychological services in your area via the American Psychological Association's Psychologist Locator (http://locator.apa.org). If you are experiencing any distress, please call the National Suicide Prevention Lifeline at 1-800-273-8255. In case of emergency, call 911. Alternatively, as students at Old Dominion University, you may call the ODU Counseling Services (Webb University Center, 1526 W 49th St, Norfolk, VA 23529; (757) 683-4401) or ODU Women's Center (1000 Webb University Center, Norfolk, VA 23529; (757) 683-4109)

To enter gift card raffle:
Please click the 'Next' button below. You will be redirected to a separate page where you will be asked to enter your email address if you would like to be entered into a drawing to receive an Amazon gift card.

Should you have questions, please contact the responsible project investigator, Robert Cramer, at rcramer@odu.edu or 757-683-3350. If you have questions about your rights as a research participant, please contact the ODU Office of Research, at (757) 683-3460 or Dr. Tancy Vandecar-Burdin, Ph.D., IRB Chair, at (757) 683-3802 or tvandeca@odu.edu.

Thank you for your time and assistance.

Sincerely,

Robert J. Cramer, Ph.D.
Associate Professor
Old Dominion University

APPENDIX D

Student Well-Being and Health Service Use Survey – Win an Amazon Gift Card!
Researchers at Old Dominion University are conducting an assessment of college student stress, well-being and utilization of campus-based health services at ODU. Some sensitive content is included in the survey such as, alcohol use and sexual victimization.

We are conducting a web survey of Old Dominion students to obtain their input.

You can access the web survey here:
https://odu.co1.qualtrics.com/jfe/form/SV_823kC9frG5poOaN

By completing the survey, you will have the option to be entered for a chance to win one of thirty $25 Amazon gift cards.

Questions about the research? Contact Dr. Robert J. Cramer (rcramer@odu.edu), or Julie Stoner (jston001@odu.edu), College of Health Sciences.

APPENDIX E

Student Well-Being and Health Service Use Survey – Earn Extra Credit!
Researchers at Old Dominion University are conducting an assessment of college student stress, well-being and utilization of campus-based health services at ODU. Some sensitive content is included in the survey such as alcohol and sexual victimization. By completing the survey, you will have the option to earn 1 (one) extra credit point.

We are conducting a web survey of Old Dominion students to obtain their input.

You can access the web survey here:
https://odu.co1.qualtrics.com/jfe/form/SV_3wKaUmZGWyz5b4F

Once you have completed the survey, you will be directed to an additional like where you will have the option to enter your email and course information. This information will be used to provide you with 1 (one) extra credit point in your course.

Alternate Option
Students who do not wish to complete the survey may still receive extra credit by completing the following CDC Learning Connection Course on Food Safety:
https://www.train.org/cdctrain/course/1048259/.

Should you choose this option, please email a copy of your certificate of completion and CHP course number to jston001@odu.edu to obtain your extra credit.

Questions about the research? Contact Dr. Robert J. Cramer (rcramer@odu.edu), or Julie Stoner (jston001@odu.edu), College of Health Sciences.

APPENDIX F

Age: _____ Gender: (select One): M F Other: _____

Race: (check all that apply)

_____ White _____ Black or African Am. _____ American Indian or Alaskan Native
_____ Asian Indian _____ Japanese _____ Native Hawaiian
_____ Chinese _____ Korean _____ Guamanian or Chamorro
_____ Filipino _____ Vietnamese _____ Samoan
_____ Other Asian (specify):_____
_____ Other Pacific Islander (specify):_____
_____ Some other race (specify):_____

Are you of Hispanic, Latino, or Spanish origin?

_____ No, not of Hispanic, Latino, or Spanish origin
_____ Yes, Mexican, Mexican American, Chicano
_____ Yes, Puerto Rican
_____ Yes, Cuban
_____ Yes, another Hispanic, Latino, or Spanish origin (specify):_____

Year in School: (select one)

_____ Freshman _____ Sophomore _____ Junior
_____ Senior _____ Graduate Student _____ Other: _____

Do you live on campus? (select one) YES NO

IF NO→ Do you live locally within Hampton Roads? (select one) YES NO

Sexual Orientation: (select one)

_____ Straight _____ Lesbian/Gay _____ Bisexual _____ I prefer no label
_____ Asexual _____ Questioning _____ Other:_____

Relationship Status: (select one)

_____ Single _____ Casually dating _____ In a relationship
_____ Married/in a life-long commitment _____ Other:_____

Do you currently have any of the following disabilities: (select all that apply)

___ Difficulty Hearing ___ Difficulty Speaking or Language Impairment
___ Difficulty Seeing ___ Mobility Limitation/Orthopedic Impairment
___ Traumatic Brain Injury ___ Specific Learning Disabilities
___ ADD or ADHD ___ Cognitive Difficulties or Intellectual Disability
___ Health Impairment/Condition, including chronic conditions
___ Psychological or Psychiatric Condition
___ Other

Please indicate your current military service status: (select one)

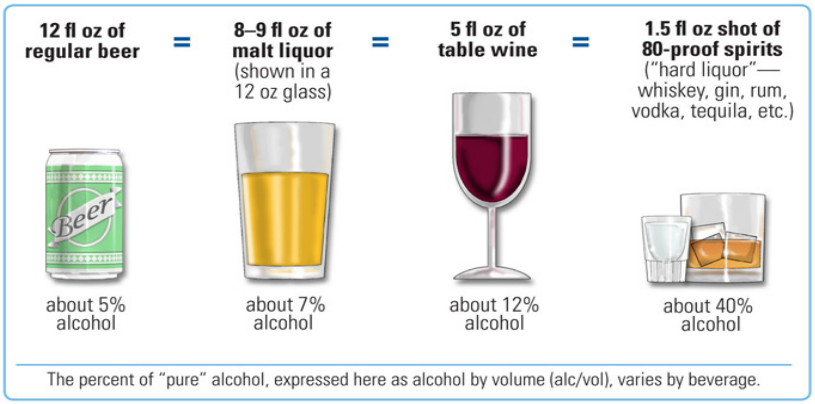
____ Active Duty ____ Reserves ____ National Guard
____ Veteran or Retiree ____ Civilian: No military service record

Are you a member of a fraternity or sorority? (select one) YES NO PLEDGING

DDQ

Instructions: Please think about your typical drinking over the **PAST 3 MONTHS**. On a typical day, how many drinks would you have, and over how many hours would you have them? That is, how many drinks would you typically have on each day in the 3 months? How long (in hours) would a typical drinking occasion last on that day? Use any applicable number, starting with 0, and please note that each space must be filled in.

NOTE: 1 drink = 1 Beer (12 oz.) = 1 Wine Cooler (12 oz.) = 1 Glass of Wine (5 oz.) = 1 Shot of Liquor (1-1.5 oz.) = 1 Mixed Drink (1-1.5 oz. of liquor)



1. Over the **PAST 3 MONTHS**, on a….

	TYPICAL MONDAY	TYPICAL TUESDAY	TYPICAL WEDNESDAY	TYPICAL THURSDAY	TYPICAL FRIDAY	TYPICAL SATURDAY	TYPICAL SUNDAY
NUMBER OF DRINKS							
NUMBER OF HOURS							

2. What is the maximum number of standard alcoholic drinks you have had in one sitting in the **past 30 days**?

3. Think of the one occasion during the **past 30 days** when you drank the most:
   a. How many standard drinks did you consume? ____ drinks
   b. Over how many hours did you consume these drinks (i.e., how long did it take for you to consume those drinks?) ____ hours

4. At what age did you FIRST DRINK alcohol? _____

5. At what age did you FIRST get DRUNK on alcohol? _____

6. At what age did you begin regularly drinking alcohol (at least one drink per month)? If you have never been a regular drinker, please place an X in the blank. _____

DASS-21

Instructions: Please read each statement and select a response (0, 1, 2 or 3) which indicates how much the statement applied to you over the **past week**. There are no right or wrong answers. Do not spend too much time on any statement. Use this rating scale:

0 = Did not apply to me at all
1 = Applied to me to some degree, or some of the time
2 = Applied to me to a considerable degree, or a good part of time
3 = Applied to me very much, or most of the time

1.	I found it hard to wind down.	0	1	2	3
2.	I was aware of dryness of my mouth.	0	1	2	3
3.	I couldn't seem to experience any positive feeling at all.	0	1	2	3
4.	I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion).	0	1	2	3
5.	I found it difficult to work up the initiative to do things.	0	1	2	3
6.	I tended to over-react to situations.	0	1	2	3
7.	I experienced trembling (e.g., in the hands).	0	1	2	3
8.	I felt that I was using a lot of nervous energy.	0	1	2	3
9.	I was worried about situations in which I might panic and make a fool of myself.	0	1	2	3
10.	I felt that I had nothing to look forward to.	0	1	2	3
11.	I found myself getting agitated.	0	1	2	3
12.	I found it difficult to relax.	0	1	2	3
13.	I felt down-hearted and blue.	0	1	2	3
14.	I was intolerant of anything that kept me from getting on with what I was doing.	0	1	2	3
15.	I felt I was close to panic.	0	1	2	3
16.	I was unable to become enthusiastic about anything.	0	1	2	3
17.	I felt I wasn't worth much as a person.	0	1	2	3
18.	I felt that I was rather touchy.	0	1	2	3
19.	I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat).	0	1	2	3
20.	I felt scared without any good reason.	0	1	2	3
21.	I felt that life was meaningless.	0	1	2	3

PCL-5

Instructions: Below is a list of problems that people sometimes have in response to a very stressful experience. Please read each problem carefully and select the response that indicates how much you have been bothered by that problem **in the past month.**

0 = Not at all 1 = A little bit 2 = Moderately 3 = Quite a bit 4 = Extremely

In the past month, how much were you bothered by:					
1. Repeated, disturbing, and unwanted memories of the stressful experience?	0	1	2	3	4
2. Repeated, disturbing dreams of the stressful experience?	0	1	2	3	4
3. Suddenly feeling or acting as if the stressful experience were happening again (as if you were back there reliving it)?	0	1	2	3	4
4. Feeling very upset when something reminded you of the stressful experience?	0	1	2	3	4
5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?	0	1	2	3	4
6. Avoiding memories, thoughts, or feelings related to the stressful experience?	0	1	2	3	4
7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?	0	1	2	3	4
8. Trouble remembering important parts of the stressful experience?	0	1	2	3	4
9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is complete dangerous)?	0	1	2	3	4
10. Blaming yourself or someone else for the stressful experience or what happened after it?	0	1	2	3	4
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?	0	1	2	3	4
12. Loss of interest in activities that you used to enjoy?	0	1	2	3	4
13. Feeling distant or cut off from other people?	0	1	2	3	4
14. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?	0	1	2	3	4
15. Irritable behavior, angry outbursts, or acting aggressively?	0	1	2	3	4
16. Taking too many risks or doing things that could cause you harm?	0	1	2	3	4
17. Being ‘superalert’ or watchful or on guard?	0	1	2	3	4
18. Feeling jumpy or easily startled?	0	1	2	3	4

19. Having difficulty concentrating?	0	1	2	3	4
20. Trouble falling or staying asleep?	0	1	2	3	4

SBQ-R

Instructions: Please select the response that best applies to you.

1. Have you ever thought about or attempted to kill yourself (check one)?
_____ 1. Never
_____ 2. It was just a brief passing thought
_____ 3a. I have had a plan at least once to kill myself but did not try to do it
_____ 3b. I have had a plan at least once to kill myself and really wanted to die
_____ 4a. I have attempted to kill myself, but did not want to die
_____ 4b. I have attempted to kill myself, and really hoped to die

2. How often have you thought about killing yourself in the past year (check one)?
_____ 1. Never _____ 2. Rarely (1 time) _____ 3. Sometimes (2 times)
_____ 4. Often (3-4 times) _____ 5. Very often (5 or more times)

3. Have you ever told someone that you were going to commit suicide and that you might do it (check one)?
_____ 1. No
_____ 2a. Yes, at one time, but did not really want to die
_____ 2b. Yes, at one time, and really wanted to die
_____ 3a. Yes, more than once, but did not want to do it
_____ 3b. Yes, more than once, and really wanted to do it

4. How likely is it that you will attempt to suicide someday (check one)?
_____ 0. Never _____ 1. No chance at all _____ 2. Rather unlikely
_____ 3. Unlikely _____ 4. Likely _____ 5. Rather likely _____ 6. Very likely

SES-SFV

Instructions: Below are up to seven different scenarios. Please read each statement carefully and select the response that indicates the number of times each experience has happened to you in the past 12 months and since the age of 14.
For example, if the experience has never happened to you, select 0. If it's occurred one time, select 1, if it's occurred twice select, 2 and if it's occurred three times or more, select 3+.
If more than one experience occurred on the same occasion (e.g., on the same night, someone told you lies AND had sex with you when you were drunk) select both responses.

Please note: The past 12 months refers to the past year going back from today. Since age 14 refers to your life starting on your 14th birthday and stopping one year ago from today.

Sexual Experiences	How many times in the past 12 months?	How many times since age 14?
1. Someone fondled, kissed, or rubbed up against the private areas of my body (lips, breast/chest, crotch or butt) or removed some of my clothes without my consent *(but did not attempt sexual penetration)* by:	0 1 2 3+	0 1 2 3+
a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.		
b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.		
c. Taking advantage of me when I was too drunk or out of it to stop what was happening.		
d. Threatening to physically harm me or someone close to me.		
e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.		
2. Someone had oral sex with me or made me have oral sex with them without my consent by:		
a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.		
b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.		
c. Taking advantage of me when I was too drunk or out of it to stop what was happening.		
d. Threatening to physically harm me or someone close to me.		
e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.		
If you are a male, check box and skip to item 4 **3. A man put his penis into my vagina, or someone inserted fingers or objects without my consent by:**		
a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.		
b. Showing displeasure, criticizing my sexuality or attractiveness, getting		

angry but not using physical force, after I said I didn't want to.
c. Taking advantage of me when I was too drunk or out of it to stop what was happening.
d. Threatening to physically harm me or someone close to me.
e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.
4. A man put his penis into my butt, or someone inserted fingers or objects without my consent by:
a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.
b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.
c. Taking advantage of me when I was too drunk or out of it to stop what was happening.
d. Threatening to physically harm me or someone close to me.
e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.
5. Even though it didn't happen, someone TRIED to have oral sex with me, or make me have oral sex with them without my consent by:
a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.
b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.
c. Taking advantage of me when I was too drunk or out of it to stop what was happening.
d. Threatening to physically harm me or someone close to me.
e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.
If you are male, check this box and skip to item 7. **6. Even though it didn't happen, a man TRIED to put his penis into my vagina, or someone tried to stick in fingers or objects without my consent by:**
a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.
b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.
c. Taking advantage of me when I was too drunk or out of it to stop what was happening.
d. Threatening to physically harm me or someone close to me.
e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.
7. Even though it didn't happen, a man TRIED to put his penis into my butt, or someone tried to stick in objects or fingers without my consent by:
a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.

b.	Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.
c.	Taking advantage of me when I was too drunk or out of it to stop what was happening.
d.	Threatening to physically harm me or someone close to me.
e.	Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.

1. **<u>Have you ever disclosed any of these sexual experiences to any of the following persons (select all that apply):</u>**

    a. Friend
    b. Family Member
    c. Roommate
    d. Spouse/Significant Other
    e. Law Enforcement
    f. Health Service Provider
    g. Religious/Spiritual Faith Leader

ERQ

Instructions: We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your **emotional experience**, or what you feel like inside. The other is your **emotional expression**, or how you show your emotions in the way you talk, gesture, or behave. Although some of the following questions may seem similar to one another, they differ in important ways. Please use the following scale to respond:

1	**2**	**3**	**4**	**5**	**6**	**7**
Strongly disagree			Neutral			Strongly agree

1.	When I want to feel more *positive* emotion (such as joy or amusement), I *change what I'm thinking about*	1	2	3	4	5	6	7
2.	I keep my emotions to myself	1	2	3	4	5	6	7
3.	When I want to feel less *negative* emotion (such as sadness or anger), I *change what I'm thinking about*	1	2	3	4	5	6	7
4.	When I am feeling *positive* emotions, I am careful not to express them	1	2	3	4	5	6	7
5.	When I'm faced with a stressful situation, I make myself *think about it* in a way that helps me stay calm	1	2	3	4	5	6	7
6.	I control my emotions by *not expressing them*	1	2	3	4	5	6	7
7.	When I want to feel more *positive* emotion, I *change the way I'm thinking* about the situation	1	2	3	4	5	6	7
8.	I control my emotions by *changing the way I think* about the situation I'm in	1	2	3	4	5	6	7
9.	When I am feeling *negative* emotions, I make sure not to express them	1	2	3	4	5	6	7
10.	When I want to feel less *negative* emotion, I *change the way I'm thinking* about the situation	1	2	3	4	5	6	7

NAQ-S

Instructions: For each item below, please select the response that best reflects how closely the item is true or false for you. Please use the following scale:

(-3)	**(-2)**	**(-1)**	**(0)**	**(1)**	**(2)**	**(3)**
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither	Slightly Agree	Moderately Agree	Strongly Agree

1. If I reflect on my past, I see that I tend to be afraid of feeling emotions.	-3	-2	-1	0	1	2	3
2. I feel that I need to experience strong emotions regularly.	-3	-2	-1	0	1	2	3
3. Emotions help people to get along in life.	-3	-2	-1	0	1	2	3
4. I find strong emotions overwhelming and therefore try to avoid them.	-3	-2	-1	0	1	2	3
5. I think that it is important to explore my feelings.	-3	-2	-1	0	1	2	3
6. I would prefer not to experience either the lows or highs of emotion.	-3	-2	-1	0	1	2	3
7. I do not know how to handle my emotions, so I avoid them.	-3	-2	-1	0	1	2	3
8. It is important for me to be in touch with my feelings.	-3	-2	-1	0	1	2	3
9. It is important for me to know how others are feeling.	-3	-2	-1	0	1	2	3
10. Emotions are dangerous—they tend to get me into situations that I would rather avoid.	-3	-2	-1	0	1	2	3

HSU

1. Have you ever used any of the following resources? (select all that apply):

_____ ODU Counseling Center
_____ ODU Health Services
_____ ODU Women's Center
_____ Off Campus Health Services

2. Please provide a brief explanation for using any of these resources:

3. How willing are you to use the following services, should the need arise? Please use the following scale:

1	**2**	**3**	**4**	**5**	**6**	**7**
Very Unwilling			Neutral			Very Willing

_____ ODU Counseling Center
_____ ODU Health Services
_____ ODU Women's Center
_____ Off Campus Health Services

4. Please provide a brief explanation for the extent of your willingness to use any of these resources:

VITA

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Doctor of Philosophy	**Old Dominion University,** Norfolk, VA Major Area: Health Services Research Cognate: Global Health Dissertation: *Sexual Violence Victimization, Mental Health, and University-Based Health Service Use Among College Females*	August 2018
Master of Public Health	**Emory University**, Atlanta, GA Major Area: Behavioral Science Masters Research Project: *Understanding the Role of Attachment on Health Behaviors Using Social Support as a Mediator*	May 2006
Master of Science	**University of Pittsburgh,** Pittsburgh, PA Major Area: Developmental Psychology Masters Capstone Project: *Adolescent Suicide: Enough is Enough*	May 2004
Bachelor of Science	**Allegheny College,** Meadville, PA	May 1998

Publications

Stoner, J.E., & Cramer, R.J. (2017). Sexual Violence Victimization among College Females: A Systematic Review of Rates, Barriers, and Facilitators of Health Service Utilization on Campus. *Trauma, Violence & Abuse.* Advanced online publication. doi: 10.1177/1524838017721245

Ateva, E., Blencowe, H., Castillo, T., Dev, A., Farmer, M., Mishra, S.K., Hopkins, L.S., Maloney, S., Ponce, H.V., Quigley, P., Ruidiaz, J., Siassakos, D., **Stoner, J.E.,** Storey, C. & Tejada de Rivero Sawers, M.L., (2018). Every woman, Every Child's 'Progress in Partnership' for stillbirths: a commentary by the stillbirth advocacy working group. *BJOG*. Advanced online publication. doi: 10.1111/1471-0528.15113