AN EXAMINATION OF THE USE OF UNIVERSITY-AFFILIATED SEXUAL ASSAULT RESOURCES AND THE WELL-BEING OF WOMEN WHO EXPERIENCE SEXUAL ASSAULT DURING COLLEGE

by

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A Dissertation
Submitted to the
Graduate Faculty
of
George Mason University
in Partial Fulfillment of
The Requirements for the Degree
of
Doctor of Philosophy
Nursing

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An Examination of the Use of University-Affiliated Sexual Assault Resources and the Well-being of Women Who Experience Sexual Assault during College

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ACKNOWLEDGEMENTS

I would like to thank the many friends, family members, and co-workers who have helped make this PhD program and dissertation possible. I especially want to thank my wonderful husband, Trevor Graham, and two amazing sons, Henry and Aaron, for all of their patience and understanding through my coursework and dissertation process. I also want to thank my dissertation committee (Dr. R. Kevin Mallinson, Dr. Jenna Krall, and Dr. Sandra Annan) for their invaluable time, incredible support, meaningful feedback, and mentoring in my dissertation work.

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ABSTRACT

AN EXAMINATION OF THE USE OF UNIVERSITY-AFFILIATED SEXUAL ASSAULT RESOURCES AND THE WELL-BEING OF WOMEN WHO EXPERIENCE SEXUAL ASSAULT DURING COLLEGE

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George Mason University, 2019

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Background: Undergraduate women are at high risk of experiencing a sexual assault during their college years. Research has established a strong link between sexual victimization and psychologic distress. While the relationship between sexual victimization and distress is known, little is known about how the use of university-affiliated sexual assault resources influences mental health outcomes for survivors.

Purpose: The purpose of this study was to (1) characteristics of women who use campus survivor resources following a sexual assault; (2) assess for relationships between campus resources use and other study variables (demographics, sexual assault characteristics, mental health, self-blame, perceived control over recovery, community resource use, and perceived helpfulness of the campus resources); (3) examine the use of university-affiliated resource used by sexual assault survivors; (4) examine survivors' perceived helpfulness of the university-affiliated resources used; and (5) examine for

differences in mental health, self-blame, and perceived control between women who perceived resources as helpful and those who perceived resources as not helpful.

Methods: This cross-sectional study evaluated the impact of multiple variables on mental health outcomes of sexual assault survivors. The target population was 18 to 24-year-old undergraduate students who identified as female and who had been sexually assaulted during their time at college. An email invitation was sent through student email accounts through university undergraduate student listserv and student organization listservs.

The independent variables in the study included demographics, history of sexual assault prior to entering college, college sexual assault severity, intoxication level, time passed since the college assault, use of campus resources, perceived helpfulness of campus resources for women who used them, use of community resources, self-blame, and perceived control over recovery. The dependent variables were mental health outcomes: overall mental health, psychological well-being, and psychological distress.

Descriptive statistics were used to describe the sample. Chi-square, Pearson's correlation and point biserial correlation tests were used to examine relationships among variables. The relationship of variables significantly correlated with the dependent variables were examined in sequential regression models. T-tests were used to examine differences between women who used resources and rated them as helpful and women who rated them as unhelpful. Institutional review board (IRB) approval was obtained at both universities.

Results: The most often used resource was campus mental health counseling (n = 66, 67.3%) followed by the university health center (n = 26, 26.5%). The perceived

helpfulness of the resources ranged from 2.89 to 4.50 on a 5-point Likert scale (5 = extremely helpful). The highest perceived helpfulness scores were for the campus survivor/victim's advocate (M = 4.50, SD = .522).

Campus resource use was significantly, positively correlated with more severe sexual assaults ($r = .244$, $p < .001$), more distress ($r = .223$, $p < .001$), characterological self-blame ($r = .163$, $p = .002$), and behavioral self-blame ($r = .135$, $p = .010$). Use of campus resources was significantly, negatively correlated with overall mental health ($r = -.227$, $p < .001$) and psychological well-being ($r = -.185$, $p < .001$). Campus resource use was a significant predictor of poorer overall mental health, more psychological distress and less psychological well-being in regression models. There was a statistically significant difference in MHI-18 Total scores ($t = 2.16$, $p = .034$) and MHI well-being subscale scores ($t = 2.10$, $p = .039$) between women who perceived university-affiliated resources as helpful and those who did not.

Conclusions: Campus resource use was a significant predictor of poorer mental health outcomes. Further research should explore the effectiveness of campus resources in supporting survivors in the recovery process. Given the high rate of sexual assaults on college campuses and known negative psychological impact of sexual assault, it is imperative that campuses offer resources that are effective in meeting the needs of survivors.

Keywords: sexual assault, college students, help-seeking, psychological distress, campus resources

CHAPTER ONE

Introduction to the Study

Sexual assault is a major public health concern. The Center for Disease Control estimates that nationally one in every five women reports experiencing a sexual assault at some time in their lives (Black et al., 2011). Female college students are at high risk for sexual assault. Twenty-three percent of college females report being sexually assaulted and/or having unwanted sexual experiences during their college years (Conley et al., 2016). The Bureau of Justice Statistics indicates this rate has remained steady between 1995 and 2013. In 80% of sexual assault and rape cases, the sexual assault was not reported to the police (Sinozich & Langton, 2014).

Sexual assault during college is not just an immediate health concern but also has implications for a multitude of long-term social, mental health, physical health, and financial consequences for the survivors that extend well beyond the college years. Black, et al. (2011) noted that women who are survivors of sexual assault and intimate partner violence are three times more likely to report their health as "poor" compared to women with no history of violence. Survivors of sexual assault also report significantly higher

rates of mental health conditions, irritable bowel syndrome, diabetes, frequent headaches, chronic pain, difficulty sleeping, and limitations in activity (Black et al., 2011).

The average lifetime financial cost to the survivor of a rape is $122,461 with a population cost of nearly $3.1 trillion United States dollars over survivors' lifetimes. This estimate includes $1.2 trillion in medical costs, $1.6 trillion in lost work productivity, and $234 billion in criminal justice activities (Peterson, DeGue, Florence, & Lokey, 2017). The health and financial costs to survivors and to society, as well as the high rates of sexual assault victimization and underreporting to police, highlight the need for college health resources to prioritize advocacy, resources and support for survivors.

Sexual Assault among College Students

Sexual assault is broadly defined as any sexual contact or sexual behaviors that occur without the consent of the recipient including forced sexual intercourse, forced sodomy, forced oral sex, fondling or unwanted sexual touching, and attempted rape. Force can encompass physical or psychological force, coercion, or threats ("Sexual Assault | OVW | Department of Justice," 2017). Rape is sexual assault; however, not all sexual assault is rape by legal definitions that vary by state. Varying definitions of sexual assault pose a challenge for accurately defining and reporting cases of sexual assault on college campuses. It is estimated that 23% of college women experience sexual assault during their college years (Conley et al., 2016). The acts of sexual assault range from sexually coercive tactics and unwanted fondling or sexual touching to attempted or completed rape. Females aged 18-24 have the highest rates of sexual assault victimization

compared to all other age groups. This rate did not differ significantly in the time period from 1997 to 2013. Among female college student sexual assault survivors, 33% experienced completed rape, 25% experienced attempted rape, 31% other unwanted sexual experiences, and 11% threats of rape. College females knew the perpetrator in 80% of the incidents (Sinozich & Langton, 2014).

Conley et al. (2016) surveyed a sample of college students (N = 7,603, females: n = 4,645) for risk factors associated with sexual assault over a two-year period. Significant correlations were noted for sexual assault victimization in females having certain personality traits (neuroticism, extraversion, and openness), associating with peers defined as having deviant behaviors in the past year, having a history of mental health disorders (post-traumatic stress syndrome, depression), having a personal history of interpersonal trauma, and consuming alcohol frequently. Of these correlates, the significant predictors of increased risk of sexual assault were alcohol frequency, depressive symptoms, and history of interpersonal trauma. Alternatively, social support was found to be a protective factor for sexual assault.

Sexual Assault and Mental Health

The impact of sexual assault on a survivor's mental health is well documented. In a recent meta-analysis on psychopathology of sexual assault victimization, findings suggested that people who have been sexually assaulted have an increased risk for all forms of psychopathology that were examined (bipolar disorder, depression, anxiety, post-traumatic distress syndrome, obsessive compulsive, substance use, suicidality, and

disordered eating) (Dworkin, Menon, Bystrynski, & Allen, 2017). Women who are the survivors of sexual assault also have a higher prevalence of specific chronic conditions including irritable bowel syndrome, headaches, chronic pain, insomnia, and activity limitations (Black et al., 2011). They are also three times more likely than non-victims to report their mental health as "poor" (Black et al., 2011). Posttraumatic stress disorder (PTSD) is the most common mental health disorder experienced after a sexual assault and women frequently report symptoms of sleeping problems, flashbacks, and detachment (Campbell, Dworkin, & Cabral, 2009; Jordan, Campbell, & Follingstad, 2010). In a study of college women, sexual victimization was associated with increased odds of suicidality (OR = 7.53, $p < .01$) in the previous twelve months, even after controlling for depression, anxiety and stress (Leone & Carroll, 2016). A meta-analysis by Dworkin et al. (2017) supported this substantial increase in risk of suicidal ideation and suicidal attempts after controlling for other risk factors. In a survey of 28 college campuses, Eisenberg, Lust, Hannan, and Porta (2016) found that college women who had been sexually assaulted in the past year (n = 495) reported 11 out of the past 30 days as having "poor emotional health" and 6.2 of the past 30 days as having "poor health" that interfered with activities. Almost 20% of these women reported having been diagnosed with anxiety in the past year, 19% with depression, 8.9% with panic attacks, and 6.4% with PTSD.

Because of the risk of mental health problems resulting after a sexual assault, it is imperative that women seek help and use available resources. In a systematic review assessing the effectiveness of mental health interventions for adult female survivors of

sexual assault, findings suggest that several treatments can improve mental health post-assault: cognitive-behavioral interventions, exposure interventions, and eye movement desensitization and reprocessing interventions (Parcesepe, Martin, Pollock, & García-Moreno, 2015). In the review, only nine articles were identified that met the search criteria (adult female survivors, included a comparison group, evaluated effectiveness of the intervention on mental health symptoms). Considering the severity and frequency of mental health problems following an assault, this suggests a relatively small body of evidence exists that evaluates mental health outcomes following interventions (Parcesepe et al., 2015). No studies have examined whether the use of a university's survivor resources has an effect on mental health outcomes of college women who have been sexually assaulted (Sabina & Ho, 2014).

Control and Blame

Perceived control over life events has a time-related model and encompasses a sense of past, present, and future control over the event. Past control can be attributed to personal control or blame one has over the factors associated with the trauma (Frazier, 2003). Self-blame is a common experience for survivors of sexual assault (Donde, 2017; Littleton, Grills-Taquechel, & Axsom, 2009; Ullman & Najdowski, 2010) and is theorized to be related to a loss of control during the assault and the internalization of feelings of responsibility for the assault (Frazier, 2003). Self-blame can have a negative impact on emotional and mental health and is associated with higher levels of PTSD

symptoms and depression (Campbell, Dworkin, & Cabral, 2009; Donde, 2017; Peter-Hagene & Ullman, 2018).

Present control refers to one's perception of control over the recovery process (Frazier, 2003). Survivors who report more control over the recovery process also report less distress, less PTSD, and greater life satisfaction (Frazier, 2004). Future control refers to perceived control over one's ability to prevent future traumatic events and control over the future likelihood that another event will occur. Control over the recovery process was found to be the most adaptive and have the strongest relationship with a decrease in psychological distress (Frazier, 2004).

Use of College Health Resources by Sexual Assault Survivors

Evidence demonstrates that disclosure to formal resource providers and the use of mental health resources may improve outcomes in psychological distress and well-being for women who are survivors of sexual assault (Hassija & Turchik, 2016). However, the majority of women do not report or disclose their sexual assault to formal resources (police, healthcare provider, crisis agency) (Sabina & Ho, 2014). Lack of disclosure of the assault may hinder women from receiving the resources they need to recover. In a national sample of college women, only 11.5% reported the rape to law enforcement (Wolitzky-Taylor et al., 2011). College women were nearly seven times more likely to report the rape to authorities if it was a forcible rape rather than an alcohol-related rape (Wolitzky-Taylor et al., 2011). In this same study of college women, only 18.7% of rape survivors received medical attention and only 17.8% sought advice from a survivor

support agency. Reporting rape to the police positively predicted seeking medical attention and assistance from a survivor support agency (Wolitzky-Taylor et al., 2011). Women are more likely to report assaults that included force or the use of a weapon, were perpetrated by a stranger, or caused physical injury (Sinozich & Langton, 2014; Wolitzky-Taylor et al., 2011). In college women, most sexual assaults are alcohol related, do not include the use of weapons, are perpetrated by an acquaintance, and do not cause physical injury (Conley et al., 2016; Kilpatrick et al., 2007; Sinozich & Langton, 2014; Wolitzky-Taylor et al., 2011). Therefore, college women are less likely to report a sexual assault than non-college women of the same age range (18 – 24) (Sinozich & Langton, 2014).

Overall, the use of university-affiliated resources for survivors of sexual assault is low. In a systematic review examining formal disclosure by college students to health services including healthcare providers and therapists, the disclosure rates ranged from 5% to 48% (Stoner & Cramer, 2017). Rates of disclosure to formal survivor's crisis centers was 15.8% (Krebs, Lindquist, Warner, Fisher, & Martin, 2007; Sabina & Ho, 2014). In a 2016 study of campus resources and mental health of undergraduate students at 28 universities, campuses with more sexual violence resources had lower rates of anxiety, panic attacks, and PTSD among sexual assault survivors (Eisenberg, Lust, Hannan, & Porta, 2016). In this same study, on campuses with more resources for survivors, participants reported fewer days of poor emotional health in the past month and also fewer days that poor health interfered with activities. However, Eisenberg et al.

(2016) did not assess whether participants had ever used any of the resources. To date, no studies have examined if the use of university-affiliated health resources and/or sexual assault survivor resources has had an effect on the mental health outcomes of sexual assault survivors.

Purpose and Research Questions

Purpose

The purpose of this study was to examine relationships among sexual assault survivors' use of university-affiliated survivor resources, perceived helpfulness of the resources, and the well-being of women who experience a sexual assault during college.

Research Questions

Research questions for this study were:

1. What are the characteristics of women who used university-affiliated survivor resources following a sexual assault during college?
2. What are the relationships between mental health outcomes of women who experience a sexual assault during college and demographic characteristics, history of victimization prior to college, sexual assault experiences, characterological self-blame, behavioral self-blame, perceived control over recovery, use of community resources, and use of university-affiliated resources?
3. Which university-affiliated survivor resources are used by female survivors of sexual assault?
4. What is the perceived helpfulness of university-affiliated survivor resources?

5. Are there significant differences in mental health outcomes between survivors who used university-affiliated resources and rated them as helpful and survivors who used university-affiliated resources and rated them as unhelpful?

Table 1 *Study Variables*

Independent Variables	**Dependent Variables**
• Severity of the assault that occurred during college • Intoxication level at the time of the assault • Time passed since the assault occurred • History of sexual victimization prior to entering college • Self-blame: characterological and behavioral • Perceived control over recovery • Use of university-affiliated resources • Perceived helpfulness of resources • Use of community resources not affiliated with the university	• Psychological distress • Psychological well-being • Overall mental health

Theoretical and Conceptual Framework

Nursing Theory

The middle range Transitions Theory by Meleis provides a conceptual framework relevant to research on sexual assault survivors' experiences and the recovery process. The Transitions Theory is often used to describe and interpret transition experiences and identify characteristics of a transition (Im, 2011). This theory was used to guide the selection of variables to include in this study. People experience many events in life that trigger a transition or change in one's role or perception of health. One type of transition trigger is a change in a health or illness situation that could lead to an uncertain process of diagnosis and treatment and to fears about consequences (Meleis, 2015). For this study, sexual assault was viewed as the life-changing transition trigger. Transitions include a complex network of factors and processes. Caregivers can play a role in facilitating the change and promoting well-being throughout the transition. The relationships between the components of the Theory of Transitions are illustrated in Figure 1.

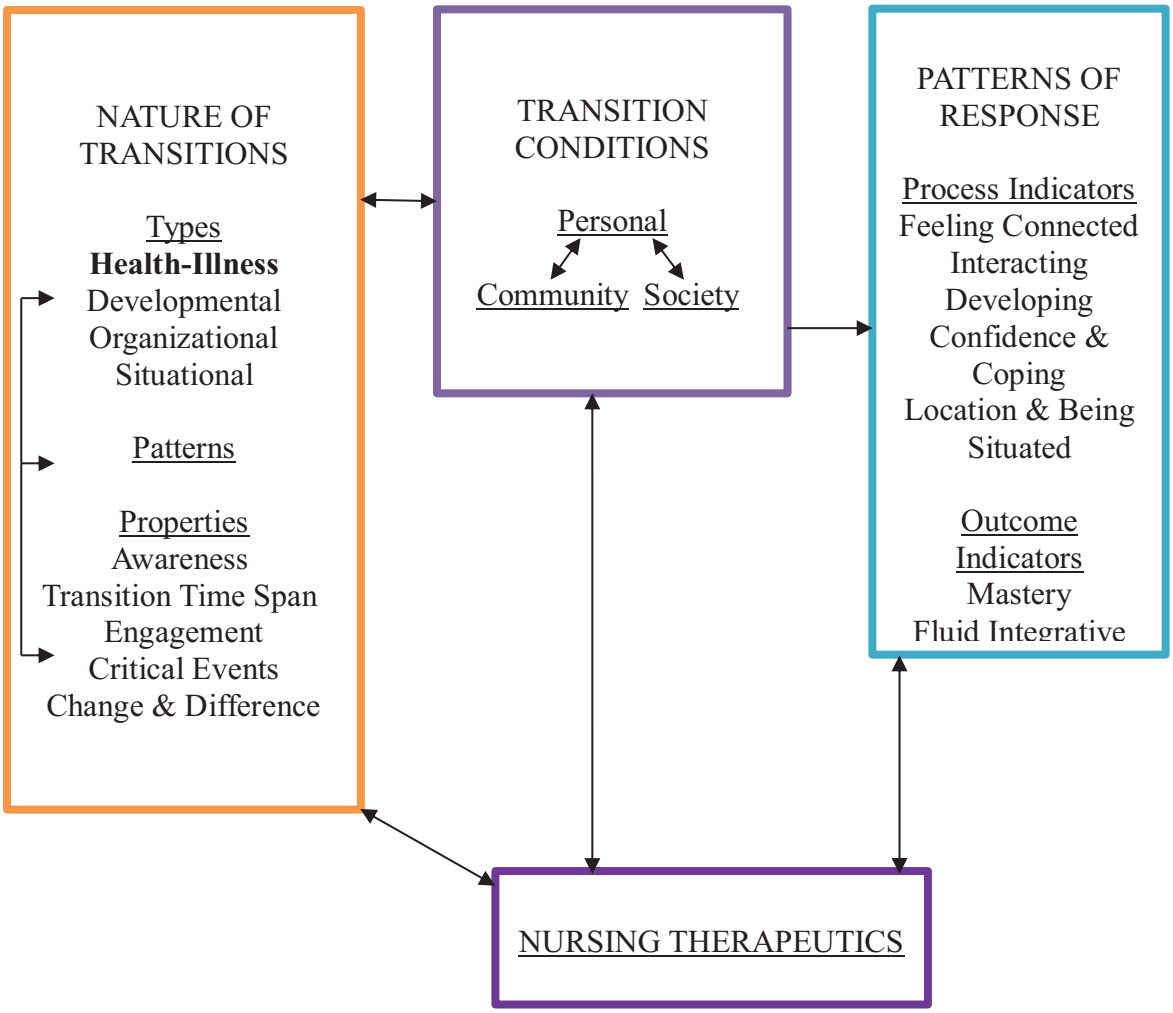

Figure 1. Theoretical Model: Adapted from The Transitions Theory (Meleis, 2010)

Transitions Theory includes four major concepts: 1) nature of transitions, 2) transition conditions that facilitate or hinder the transition, 3) patterns of responses, and 4) nursing therapeutics (Im, 2011). The nature of transitions that nurses encounter in working with patients and families includes the type (for example, health-illness),

patterns (single or multiple simultaneous transitions) and properties (characteristics of the transition) (Im, 2011). Properties of transitions in the theory include awareness, engagement, change and difference, transition over time span, and critical points and events (Bohner, 2017). Awareness involves perception, knowledge, and recognition of a transition event; and in this study was represented by a woman's acknowledgement of the experience as a sexual assault. Engagement is the degree to which a person is involved in her transition process. Following a sexual assault, engagement is demonstrated when the victim decides to disclose the event to formal health services such as healthcare providers, mental health counselors, etc. Engagement can be affected by the survivor's perceived control over recovery. The property of change in Transitions Theory is characterized by both the occurrence of a change in a person's life and a change a person makes as a result of the transition event (Bohner, 2017). Change can be seen through transitions in one's identity, role, ability, and pattern of behavior. Women who have been sexually assaulted may question their identities by blaming themselves, applying stigmas that are attached to victimization, and assuming control over the recovery process.

Transitions are processes that occur over time with this time span varying for each individual in response to the trigger event. The time span may be related to the time since the sexual assault event and the time it takes to transition through the recovery process. The trajectory of transitions is also affected by critical points or events that occur during the process. Critical points can be associated with increased awareness of the change or more active engagement in coping with the transition experience. For victims of sexual

assault, this critical event may be the decision to seek help and disclose the assault to formal sources.

The Transitions Theory's inclusion of personal conditions highlights the importance of considering the perspective of the person experiencing the transition and the meanings assigned to the transition by the individual. Personal conditions include one's perceptions or meanings assigned to the transition event, cultural beliefs and attitudes, socioeconomic status, preparation, and knowledge of what to expect during the transition process (Meleis, 2015). For this study, demographic data of the participants was examined for descriptive purposes and to examine for significant relationships with other study variables. The meanings attributed to the transition event may inhibit or facilitate the transition process (Meleis, 2010). For example, in this study, the relationships among feelings of self-blame and perceived control over help-seeking were examined. The community in which a person experiences a transition is also considered one of the transition conditions. In this study, the community was the college setting. College norms for hooking up and consuming alcohol are different than for a community sample of people not enrolled in college. Societal norms may also contribute to transitioning to patterns of response. No campus climate norms were assessed for this study. Variables of rape myth acceptance and perceptions of gender roles were not examined in this study but could have potentially influenced women's decisions to seek help. These variables may be explored in future studies to examine other facilitators or inhibitors of patterns of response.

Nurses spend much of their time caring for people experiencing transitions in their lives. Nursing practice is concerned with how people respond to transitions, the factors that facilitate and hinder the transitions and the process needed to promote successful recovery. According to the Transitions Theory, healthy transitions can be assessed by examining process indicators and outcome indicators. Process indicators include the need to feel and stay connected in personal relationships and to health care professionals. In addition to feeling connected, individuals need to interact with others to establish meanings of the transition and develop their personal responses to the transition. In the process of a healthy transition, one develops confidence and coping strategies. In this study, the process indicators were represented by examining the individual's use of resources, perceived helpfulness of resources, and self-reported psychological well-being and distress.

The existing literature examining the use of university-affiliated sexual assault survivor resources and the impact on mental health outcomes is lacking. Interventions for people experiencing transitions should provide knowledge and strategies to cope with the transition experience and promote well-being and mastery of the change that has occurred. The current study examined the relationship between the nature of the transition, personal transition conditions, therapeutic interventions used by assault survivors, and the outcome indicators of psychological distress and psychological well-being. Table 2 outlines the components of the Transitions Theory and representative study variables. Many components of the theory overlap and are not considered mutually

exclusive; therefore, study variables may represent more than one component of the theory.

Table 2. *Components of the Transitions Theory and Study Variables*

Theory Components	Study Variables
Nature of Transitions	
Types	
Health-illness	Sexual assault
Properties	
Awareness	Sexual assault characteristics
Engagement	Use of resources
Critical event	Use of resources
Change	Self-blame, perceived control
Transition Conditions	
Personal	Demographics, self-blame, perceived control
Community	Use of resources, perceived helpfulness
Patterns of Response	
Progress Indicators	
Feeling connected	Use of resources, perceived helpfulness
Interacting	Use of resources
Developing confidence and coping	Perceived helpfulness, psychological well-being
Outcome Indicators	
Mastery & fluid integrative	Mental health outcomes: psychological well-being

identities and psychological distress

Conceptual Model

This study examined factors associated with mental health outcomes of women who experience a sexual assault during college. The conceptual model for this study was adapted from the Transitions Theory (Meleis, 2010). The model illustrated in Figure 2, depicts the relationships among the independent variables (demographic characteristics, sexual assault characteristics, intoxication level, self-blame, control over recovery, and use of university-affiliated resources, history of prior victimization included in the demographic data and the use of community resources not affiliated with the university) and dependent variables (overall mental health, psychological distress and psychological well-being).

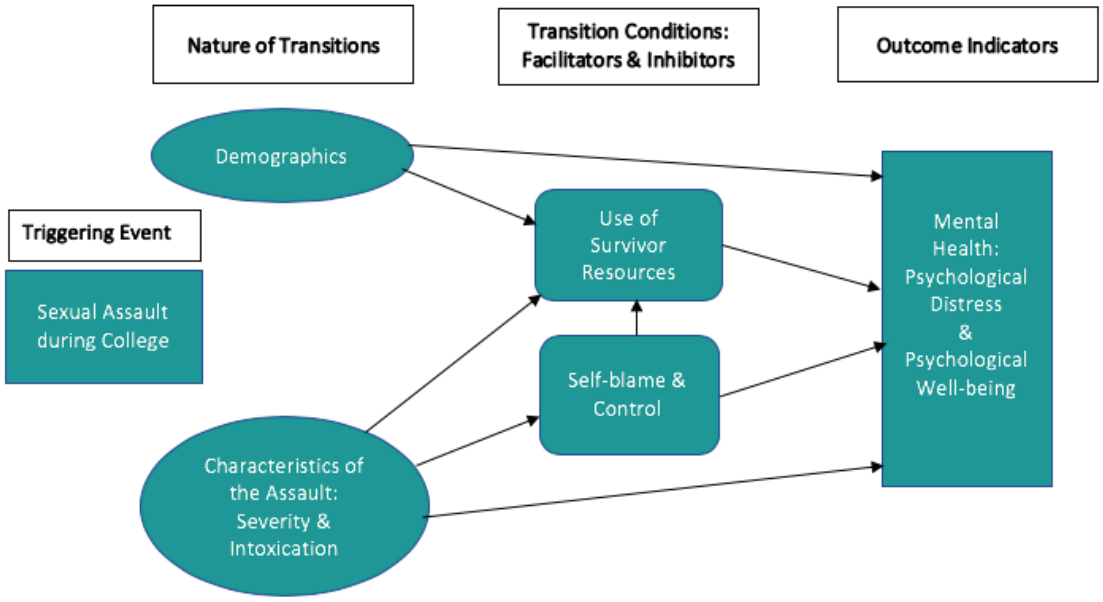

Figure 2. Conceptual Framework of Variables

Definition of Terms

Table 3 provides an overview of the conceptual definitions of variables examined in this study. Operational definitions of these variables are provided in Chapter 3.

Table 3. *Conceptual Definitions of Study Variables*

Variable	Conceptual Definition
Sexual Assault	Sexual assault is broadly defined as any sexual contact or sexual behaviors that occur without consent of the recipient including forced sexual intercourse, forcible sodomy, forced oral sex, fondling or unwanted sexual

	touching and attempted rape ("Sexual Assault | OVW | Department of Justice," 2017).
Intoxication level	Intoxication level refers to the degree of impairment by consuming alcohol or drugs. Alcohol or drug related sexual assaults can be due to coerced, forced or voluntary consumption of alcohol or drugs by the victim (Kilpatrick, Resnick, Ruggiero, Conoscenti, & McCauley, 2007).
Self-blame	Self-blame can be categorized as behavioral and characterological. Behavioral self-blame is defined as feelings of attributing the rape to a specific behavior the victim engaged in that could have been modified. Characterological self-blame is defined as feelings of attributing the rape to something about the survivor that is not modifiable (Frazier, Keenan, et al., 2011).
Perceived Control Over Recovery	Perceived control over recovery refers to the perception the survivor has of how much control she has over the recovery process (Frazier, 2003).
University-affiliated Survivor Resources also referred to as Campus Resources	University-affiliated survivor resources are those resources that provide mental and physical health support and services after a sexual assault and are offered by the college or university: campus counseling centers, rape crisis centers, university health centers, 24-hour hotline or support access, survivor/victim's advocate, support groups and peer counseling (Eisenberg et al., 2016; Sabina & Ho, 2014; Stoner & Cramer, 2017). University-affiliated resources are also referred to as on-campus or campus resources.
Perceived Helpfulness of Resources	Perceived helpfulness is one's contextual perception of how helpful each university-affiliated resource was in

	the recovery process following a sexual assault (Kuramoto-Crawford, Han, Jacobus-Kantor, & Mojtabai, 2015; Starzynski & Ullman, 2014).
Community Resources not Affiliated with the University	Community resources not affiliated with the university are any resources that provide mental and physical health support and services after a sexual assault, are not part of the university's offered resources, and may be located off-campus. Community resources not affiliated with the university are also referred to as community resources or off-campus resources.
Psychological Distress	Psychological distress is the self-reported feelings of depression, anxiety and loss of behavioral or emotional control (Veit & Ware, 1983)
Psychological Well-being	Psychological well-being is the self-reported feelings of having a positive affect and emotional ties to others (Veit & Ware, 1983).

Sexual Assault Severity

For the purposes of this study, severity of sexual assault was ranked from least serious to most serious: sexual contact, attempted coercion, coercion, attempted rape, and rape (Davis et al., 2014; Koss et al., 2007).

Unwanted Sexual Contact

Unwanted sexual contact included fondling, kissing, or rubbing up against the private areas of one's body (lips, breast/chest, anterior external genitalia or buttocks), or removing some clothes without consent (Koss et al., 2007).

Attempted Coercion

Attempted coercion included someone trying to have oral sex or vaginal or anal intercourse without consent by telling lies, threatening to end relationship or spread rumors, criticizing, or getting angry; but not by using physical force (Koss et al., 2007).

Coercion

Coercion included someone having oral sex or vaginal or anal intercourse without consent by telling lies, threatening to end relationship or spread rumors, criticizing, or getting angry; but not by using physical force (Koss et al., 2007).

Attempted Rape

Attempted rape was defined as someone trying to have oral sex or vaginal or anal intercourse without consent by taking advantage of the victim when she was too intoxicated to stop what was happening, threatening to use physical harm, or using physical force (Koss et al., 2007).

Rape

Rape was defined as someone having oral sex or vaginal or anal intercourse without consent by taking advantage of the victim when she was too drunk to stop what was happening, threatening to use physical harm, or using physical force (Koss et al., 2007).

Incapacitated Sexual Assault

Incapacitated sexual assault was defined as unwanted sexual activity that occurs after the victim voluntarily uses alcohol or drugs. The victim may have been passed out

or awake but too drunk or high to know what he or she was doing or to control his or her own behavior (Kilpatrick et al., 2007).

Alcohol or Drug Facilitated Rape

Alcohol or drug facilitated rape was defined as the perpetrator deliberately giving the victim alcohol or drugs without his or her consent or trying to get the victim intoxicated in order to commit unwanted sexual acts against him/her. The victim may have been passed out or awake, but too drunk or high to control his or her behavior (Kilpatrick et al., 2007; Zinzow et al., 2010).

University-affiliated Survivor Resources

For the purposes of this study, university-affiliated survivor resources were defined as those resources that provided mental and physical health support services after a sexual assault and were offered by the college or university. University-affiliated resources were also referred to as campus resources. These resources included campus counseling centers, rape crisis centers, university health centers, 24-hour hotline or support access, survivor/victim's advocate, support groups, and peer counseling. (Eisenberg et al., 2016; Sabina & Ho, 2014; Stoner & Cramer, 2017). The university-affiliated survivor resources did not include legal, residential life, or academic resources provided by colleges and universities: Title IX Coordinator, campus police, resident advisors, etc. Resources that were off-campus or provided by the community were assessed separately.

Psychological Distress

Psychological distress was defined as self-reported feelings of depression, anxiety, and loss of behavioral or emotional control. Feelings of depression included feeling moody, in low spirits, downhearted, blue, strained, stressed, or pressured. Feelings of anxiety included feeling nervous, worried, tense, bothered, restless, jumpy, upset, flustered, and difficulty calming down. Loss of behavioral and/or emotional control included feelings of loss of control over behaviors, thoughts, feelings, emotional stability; feeling like crying; and/or feeling as though one would be better off dead, had nothing to look forward to, or is thinking about taking own life (Veit & Ware, 1983).

Psychological Well-being

Psychological well-being was defined as self-reported feelings of having a positive affect and emotional ties to others. Positive affect included feelings of being happy, satisfied, pleased, calm, peaceful, relaxed, rested, hopeful, cheerful, lighthearted; enjoying life; and living a wonderful adventure. Emotional ties included feelings of being loved and wanted; that relationships are complete; and not feeling lonely (Veit & Ware, 1983).

Victim and Survivor

Both terms, *victim* and *survivor,* are used in the literature on sexual assault. In a study of participants who had experienced a sexual assault (N = 85, women = 75, men = 10), 35 participants referred to themselves as a *survivor*, 24 referred to themselves as a *victim*, and 26 considered themselves as neither a *victim* or a *survivor* (Williamson & Serna, 2018). The author's found that participants' views of themselves as survivors,

victims, or neither had no significant correlations with other study variables of self-blame, victim blame or self-compassion. For this current study, both terms, *victim* and *survivor,* were used to describe individuals who have experienced a sexual assault.

Innovation of Study

This study advanced research on the recovery process for sexual assault survivors in several ways. A review of the literature indicated a need to clarify if the use of university-affiliated survivor resources has any relationship with the mental health outcomes of women who experience a sexual assault during college. Most research on mental health and the recovery process has examined general population or mixed samples of participants limiting the application of the findings to the college student population. College campuses are unique settings offering survivor resources that are accessible to students on campus. Yet, the use of these university-affiliated resources remains low.

Many studies have examined facilitators and inhibitors of help-seeking, rates and patterns of help-seeking, and responses from disclosures of the assault to both informal (friends and family) and formal (organizational-based or university-affiliated) sources. Few studies have examined perceived helpfulness of the resources offered by universities (Sabina & Ho, 2014). The effectiveness of resources for sexual assault survivors in the recovery process is not well documented. It may be possible that the lack of resource use by students may be related to a lack of perceived helpfulness or perceived effectiveness

of the resources offered. A better understanding of the viewpoints of students using the services is valuable in order to improve the services available.

Summary

Sexual assault on college campuses is a significant problem. The mental and physical health consequences of a sexual assault extend beyond the immediate impact of the assault. College campuses have a responsibility to students to ensure they are receiving adequate and helpful resources. To date, no studies have examined the perceived helpfulness and impact of university-affiliated resource use on the mental health outcomes of women who were sexually assaulted during college.

CHAPTER TWO

Review of the Literature

This chapter reviews the literature on the existing research on major variables relevant to this study. This review begins with literature that explores the concept of mental health in women who have been sexually assaulted. As described in chapter one, sexual violence against women often leads to negative physical and mental health outcomes. Specific concepts of distress (e.g. PTSD, depression, and suicide) and well-being (e.g. post-traumatic growth and positive adaptation) are explored. Then, the review focuses on research studies that have examined correlates and predictors of mental health outcomes in women who have been sexually assaulted. Finally, the chapter concludes with a review of university-affiliated resources for survivors of sexual assault.

To identify studies for this literature review, multiple searches of online databases were conducted. The databases included CINAHL, PsycINFO, Cochrane Library, ProQuest Dissertations, PubMed, Education Research Complete, and Scopus. Search terms included *sexual assault, rape, sexual violence, college, university, female, women, student, alcohol, health, mental health, well-being, PTSD, depression, resource, service,*

blame, control, victim, and *survivor* in various word combinations. The search was limited to articles published in English language. A search of reference lists from relevant research reports and systematic reviews was conducted to identify additional resources (Dworkin et al., 2017; Halstead, Williams, & Gonzales-Guarda, 2018; Sabina & Ho, 2014; Stoner & Cramer, 2017). This search was limited to literature from the past 20 years (1997 – 2018) to identify current trends in research and identify gaps in the current literature. Systematic reviews, literature reviews, meta-analyses, quantitative, qualitative, and mixed methods studies were examined. This synthesis of literature is by no means exhaustive of the research conducted on sexual assault, but rather focuses on extant research on sexual assault in women with a focus on mental health outcomes.

Mental Health Outcomes of Sexual Assault Survivors

Psychological distress. There is strong evidence that sexual assault victimization is associated with an increased risk of psychological distress and poorer mental health outcomes for women. Survivors of sexual assault can experience multiple forms of psychopathology including PTSD, depression, anxiety, suicide risk, disordered eating, and/or substance abuse (Dworkin et al., 2017). The levels of depression, anxiety, disordered eating, and substance abuse are higher for women who have experienced sexual assault than for those who have not (Dworkin et al., 2017).

PTSD or trauma-related distress was found to have had the greatest association with poorer mental health when compared with other forms of psychopathology (Dworkin et al, 2017). In a literature review by Campbell et al. (2009), studies reported

between 7 – 65% of women with a history of sexual assault experience PTSD with most studies reporting in the range of 33-45%. In a college health survey, women who experienced a sexual assault (n = 495) reported having symptoms of anxiety (19.8%), depression (19.0%) panic attacks (8.9%), and PTSD (6.4%) (Eisenberg et al., 2016). In this same study, survivors also rated their emotional health as *poor* an average of 11 out of the past 30 days. Survivors of sexual violence also reported significantly more suicidal ideations within the previous 12 months when compared to non-victims (26% versus 4%) (Leone & Carroll, 2016). In fact, sexual assault was more strongly associated with suicidality than other forms of trauma (Dworkin et al., 2017; Leone & Carroll, 2016).

Research on undergraduate students (N = 64,910 at 108 U.S. institutions, aged 18 to 24 years old, 68.8% female, 30.7% male, 0.4% transgender) also suggests that when comparing those who have been sexually assaulted to those who have not, survivors report more feelings of loneliness (79.8% versus 58.7%), hopelessness (70.6% versus 46.5%), difficulty functioning (57.6% versus 31.2%), overwhelming anxiety (75.4% versus 54.8%), and sleep problems (45% vs. 26.2%) (American College Health Association, 2016). Additionally, three months after a sexual assault, 43.4% of women (N = 122) report that their outlook on life had changed in a negative way (Hansen, Hansen, Nielsen, & Elklit, 2017). College students who have been sexually assaulted also report that their academic performance had been negatively impacted (Artime, Buchholz, & Jakupcak, 2018; Kaukinen, Miller, & Powers, 2017).

Psychological well-being. Emotional distress and growth may not be considered opposites nor mutually exclusive after a sexual victimization. Some women reported both positive and negative mental health sequelae following a sexual assault (Borja, Callahan, & Long, 2006; Elderton, Berry, & Chan, 2017; Hansen et al., 2017). Research has predominantly focused on the negative mental and physical health changes in the aftermath of a sexual assault. There is a body of research that has examined positive life changes following an assault including changes in perception of self, relationships, life philosophy, empathy, beliefs about the world, and life satisfaction. Post traumatic growth (PTG) is the positive change people experience as they recover from a highly stressful or traumatic event (Tedeschi, Cann, Taku, Senol-Durak, & Calhoun, 2017). Growth after trauma has been documented following many different types of trauma including sexual assault (Elderton et al., 2017; Tedeschi et al., 2017; Ulloa, Guzman, Salazar, & Cala, 2016).

Though most women reported a more negative outlook on life three months post-assault, 17.3% (N = 122, aged 12 – 58) reported a more positive outlook on life and that number increased to 20.5% by 12 months post-assault (Hansen et al., 2017). Frazier, Conlon and Glaser's (2001) findings from a longitudinal study of female sexual assault survivors (N = 171) also supported that positive changes may increase, and negative changes may decrease over time following a sexual assault. In a qualitative study by Guerette & Caron (2007), female undergraduate and graduate college students (n = 12) described other positive changes that occurred as a result of their unwanted sexual

experiences: feeling stronger, feeling more focused in other areas of life, having closer relationships with their mothers, raising children with an awareness of sexual responsibility, and the ability to understand and empathize with other women who had been raped.

Studies exploring the relationship between distress and well-being following an assault have demonstrated variable results. For example, in a study of treatment-seeking, female physical and sexual assault victims (N = 100, average age 32.34 years), no significant relationships were found between PTG and PTSD symptoms (Grubaugh & Resick, 2007). Alternatively, these two variables were found to have a significant negative relationship in studies of female sexual assault survivors (Ullman, 2014). Grubaugh & Resnick (2007) examined a mixed sample of both physical and sexual assault victims using a clinical interview to measure PTSD symptoms; whereas, Frazier et al. (2001) and Ullman (2014) examined only sexual assault victims using a 17-item standardized self-report measure of PTSD symptoms. All three studies used surveys with similar items to measure PTG. These inconsistent findings support the need for further research on the complex relationship between distress and well-being following a sexual assault. Clarifying these relationships may better inform resource development and implementation for survivors of sexual assault.

Factors Associated with Mental Health Outcomes Following Sexual Assault

Sociodemographic characteristics. Studies demonstrate mixed findings of the impact of sociodemographic characteristics on post-assault recovery (Campbell et al.,

2009; Dworkin et al., 2017). While some studies demonstrated significant differences in PTSD and depression symptoms based upon race of the survivor, other studies did not demonstrate significant differences for race (Sigurvinsdottir & Ullman, 2015; Ullman, Filipas, Townsend, & Starzynski, 2006; Zinzow et al., 2010). Zinzow et al. (2010) demonstrated significant differences in depressions symptoms for age, income and marital status. Ullman et al. (2006) found age and race were not significant predictors of post-assault distress, but education was a significant predictor of distress. In a meta-analysis of mental health outcomes for sexual assault survivors including 195 studies, there was not enough evidence to support either race or age of survivors in the effect on psychopathology (Dworkin et al., 2017). In a systematic review of literature on posttraumatic growth in survivors of interpersonal violence, demographic characteristics of older age and non-Caucasian ethnicity were associated with greater posttraumatic growth, whereas higher education level was related to less post-traumatic growth (Elderton et al., 2017).

Sexual assault characteristics. The characteristics of the sexual assault can influence the mental health sequelae. Studies have examined relationships between mental health outcomes and sexual assault characteristics such as relationship of the survivor to the perpetrator, use of force, use of a weapon, completed rape, and time since the assault occurred. Women who experienced any type of rape had significantly higher diagnoses of PTSD and a major depressive episodes than women who had not been raped (Zinzow et al., 2012).

In a meta-analysis by Dworkin et al. (2017), the relationship of the perpetrator to the victim and the amount of time elapsed since the assault occurred did not demonstrate significant differences in psychopathology suggesting that regardless of the relationship to the perpetrator and amount of time passed, women continued to experience distress. In this meta-analysis, the use of broader sexual assault definitions that included incapacitated, coerced or non-penetrative sexual assault was not associated with significant differences in mental health outcomes. Significant correlations have been noted between distress level and assaults that involve penetration, perceived life threat or use of physical force (Blayney & Read, 2018; Dworkin et al., 2017; Ullman et al., 2006; Zinzow et al., 2012). Among a national sample of women, the risk of PTSD symptoms for women who experienced a rape that involves force, threat of force and injury or an alcohol- facilitated rape was significantly higher than women who experience incapacitated rape (Zinzow et al., 2010). These studies suggest that more severe assault characteristics may have a more significant negative impact on victims' recovery.

History of prior victimization. Findings for effects of a history of childhood victimizations on psychological distress are mixed. Studies demonstrated significant positive correlations between prior victimization and distress levels (Blayney, Read, & Colder, 2016; Breitenbecher, 2006; Zinzow et al., 2012). Studies also demonstrated no significant correlations between prior victimizations and distress levels (Jaffe et al., 2017; Ullman et al., 2006). Zinzow et al. (2012) found no significant relationship between a community sample of women (n = 3,001) who endorsed multiple rapes and their levels of

distress. These studies varied in characteristics of samples, definitions of childhood or "prior victimizations," and the scales used to measure prior victimization and distress. Inconsistency in measurement may contribute to these mixed findings.

Alcohol. Research findings suggest a strong link between alcohol use and sexual assault in college students (Conley et al., 2016; Kilpatrick et al., 2007; Sinozich & Langton, 2014; Wolitzky-Taylor et al., 2011). Kilpatrick et al. (2007) found that 79% of sexual assaults in the college population involved alcohol use by the victim, perpetrator or both and suggested that the most common risk situation for college women was being taken advantage of after voluntarily intoxication. According to a national survey of college students, 60% consumed alcohol within the previous month and nearly 67% of those engaged in binge drinking ('four or more drinks for a female and 5 or more drinks for a male in a two-hour period') (Substance Abuse and Mental Health Services Administration, 2015). High levels of alcohol consumption by college students puts them at an increased risk for sexual assault victimization. Alcohol-involved sexual assaults may follow coerced, forced, or voluntary consumption of alcohol. Incapacitated sexual assault is defined as unwanted sexual activity that occurs after the victim voluntarily uses alcohol or drugs. The victim may be passed out or awake but too drunk or high to know what she is doing or to control her behavior. Alcohol-facilitated rape is defined as the perpetrator deliberately giving the victim alcohol without her consent or trying to get the victim intoxicated in order to commit unwanted sexual acts against her. Similarly, the

victim may be passed out or awake but too drunk or high to control her behavior (Kilpatrick et al., 2007).

Women who are drinking prior to a sexual assault may be more likely to experience psychological distress and less likely to experience post-traumatic growth (Lorenz & Ullman, 2016). Jaffe et al. (2017) found a significant positive correlation between the level of alcohol intoxication and the post-assault PTSD symptoms reported in a sample of women in the general population aged 18-26 ($N = 143$; $p < .05$). In contrast, Blayney, Read & Colder (2016), found the level of alcohol intoxication was not associated with post-traumatic stress symptoms in a sample of college students ($N = 116$, 81% female). Littleton et al. (2009) found no difference in post-assault levels of distress between women who had been drinking and women who had not been drinking at the time of the assault suggesting that all victims were vulnerable to symptoms of distress post-assault. In another study of women in the general population aged 18-76 ($N = 3,001$), survivors of drug- or alcohol-facilitated rapes had an increased likelihood of having PTSD symptoms while women who were survivors of incapacitated rape did not have an increased likelihood of PTSD (Zinzow et al., 2010). In this same study, alcohol-related rapes were not associated with an increased likelihood of depression.

Impaired or intoxicated survivors were more likely to disclose the assault to informal support than formal support services (Littleton et al., 2009; Ullman & Najdowski, 2010). In the same studies, the disclosure rate to formal support services was not significantly different between impaired or intoxicated survivors and non-impaired

survivors. When disclosing a sexual assault to formal and informal sources, survivors of alcohol-related assaults were more likely to experience negative reactions, be disbelieved or be blamed for the assault (Lorenz & Ullman, 2016). In a study by Relyea & Ullman (2015), female survivors (n = 388, ages 18 – 71) reported that disclosing their alcohol use at the time of the assault made things worse (43%) and rarely made things better (11%). Negative reactions from disclosure of an alcohol related assault were associated with more self-blame and poorer psychological outcomes and recovery in samples of women in the general population (Relyea & Ullman, 2015; Ullman & Najdowski, 2010). Further research is needed to explore the association of alcohol intoxication with post-assault distress, well-being and recovery in college women.

Self-blame. When applied to sexual assault, self-blame relates to feelings of responsibility for the assault and loss of control during the assault. Research suggests a time-related model of perceived control when coping with a traumatic event. The temporal model includes past, present and future control (Frazier et al., 2001; Frazier, Keenan, et al., 2011). According to the temporal model of control with sexual assault as the traumatic event, past control refers to a survivor's belief that she had control over reason for the occurrence of the assault. *Past control* is represented by two types of self-blame: characterological and behavioral. Behavioral self-blame is defined as feelings of attributing the rape to a specific behavior the survivor engaged in that could have been modified. For example, a woman may blame herself for certain behaviors such as drinking alcohol prior to the assault or not resisting enough during the assault.

Characterological self-blame is defined as feelings of attributing the rape to something about the survivor's character that is not modifiable. For example, a woman may blame her attributes such as being too careless, trusting, or unlucky (Frazier, Keenan, et al., 2011). *Present control* refers to the survivor's perceived control over the recovery process. *Future control* refers to the perceived control over the ability to prevent the occurrence of future assaults (Frazier, 2003; Frazier et al., 2001).

Both characterological and behavioral self-blame have been associated with increased levels of distress following an assault (Breitenbecher, 2006; Frazier, Keenan, et al., 2011; Ullman et al., 2007). Studies have demonstrated that characterological self-blame has stronger negative effects on post-assault adjustment than behavioral self-blame (Breitenbecher, 2006; Peter-Hagene & Ullman, 2018; Ullman et al., 2007). One study demonstrated significant positive correlations for not only characterological self-blame and PTSD symptoms ($r = .46$, $p < .01$), but also for characterological self-blame with depression ($r = .43$, $p < .01$) and anxiety ($r = .36$, $p < .01$) (Hassija & Gray, 2013). Breitenbecher (2006) found that characterological self-blame was a more important predictor of distress than frequency of past victimization and was the only significant predictor of psychological distress when controlling for frequency of past victimization, perceptions of future avoidability, perpetrator blame, characterological self-blame, situational and/or chance blame, behavioral self-blame, and societal blame (Breitenbecher, 2006). Additionally, characterological self-blame has demonstrated a significant ($p = .039$) negative effect on post-traumatic growth (Ullman, 2014). Survivors

who experienced more behavioral self-blame less often disclosed their sexual assaults to mental health providers, whereas survivors who experienced more characterological self-blame more often reported their assaults to mental health providers (Starzynski, Ullman, Townsend, Long, & Long, 2007). This may be a result of increased distress experienced by survivors who have higher levels of characterological self-blame who therefore seek mental health services for their distress.

Women who were intoxicated at the time of the assault were more likely to experience self-blame than women who were not drinking (Littleton et al., 2009; Ullman & Najdowski, 2010). These women reported both greater characterological self-blame and behavioral self-blame (Ullman & Najdowski, 2010). A greater degree of victim intoxication has been found to be predictive of greater feelings of self-blame and personal responsibility; but not predictive of assigning blame or responsibility to the perpetrator (Donde, 2017). Women's self-blame may be attributed to feelings that the assault could have been avoided if she had not been impaired at the time of the assault. This supports the temporal model of control where self-blame represents control over the cause of a past experience.

Self-blame may have a positive adaptive function in post-assault recovery (Breitenbecher, 2006; Hassija & Gray, 2013). Hassija and Gray (2013) found a moderating relationship between behavioral self-blame (past control), perceptions of future avoidability (future control) and better mental health outcomes. A positive relationship between behavioral self-blame and well-being has been supported in other

studies (Breitenbecher, 2006; Frazier, Tashiro, Berman, Steger, & Long, 2004). Women who experience behavioral self-blame attributed the assault to their behaviors, which were modifiable, and therefore may have felt a greater sense of control over avoiding future assaults. Self-blame may function as a part of recovery and is important to examine its effects on post-assault distress and well-being.

Perceived control over recovery. In a temporal model of control over recovery of a traumatic event, present control was defined as the perceived control over the recovery process (Frazier et al., 2001). Sexual assault survivors who reported more perceived control over their recovery process reported more positive life changes and more post-traumatic growth after a sexual assault (Frazier, Conlon, Steger, Tashiro, & Glaser, 2011; Frazier et al., 2004; Ullman, Peter-Hagene, & Relyea, 2014). Present control over the recovery process has also been associated with less distress across multiple studies of diverse samples with a variety of traumatic life events (Frazier, Keenan, et al., 2011; Frazier, 2003; Najdowski & Ullman, 2009; Ullman et al., 2007). Control over the recovery process was found to be negatively associated with lower scores of depression, anxiety, stress, and PTSD as well as significantly less self-reported binge drinking in a sample of college students experiencing a traumatic life event (Frazier, Keenan, et al., 2011). In a sample of female sexual assault survivors (N = 171) who were seen in an Emergency Department following their assaults, high levels of perceived control over the recovery process was more predictive of less distress than were other variables of self-blame, control over the potential for future assaults and

perceived likelihood of a future assault (Frazier et al., 2004). In a sample of community women (N = 969) in which 77% had experienced a completed rape, perceived control was positively associated with adaptive coping ($r = .27$, $p < .001$) and self-reported feelings of recovery ($r = .32$, $p < .001$) from the sexual assault and negatively associated with PTSD symptoms ($r = -.20$, $p < .001$) (Najdowski & Ullman, 2009). Additionally, a qualitative study of sexual assault survivors (n = 8), survivor advocates (n = 19), and healthcare providers (n = 6) explored participants' ideal components of post-assault care and found that participants recommended interventions that optimize survivor control over the recovery process (Munro-Kramer, Dulin, & Gaither, 2017).

Use of resources. Most college campuses provide formal resources for survivors of sexual assault (student health services, mental health counseling, survivor's advocates, etc.). In a study using data from the 2015 American College Health Association Survey (N = 19,861), researchers found that college students who had experienced interpersonal violence (physical or sexual assault) were more likely to use on-campus mental health services than those respondents who had never experienced a trauma (Artime et al., 2018). However, there is a lack of evidence to support the effectiveness of university-affiliated interventions.

Survivors of sexual assault have reported both positive and negative outcomes after using community based formal resources following a sexual assault. Two studies have examined whether survivors' experiences with formal support providers were rated as healing or hurtful (Ahrens, Cabral, & Abeling, 2009; Campbell, Wasco, Aherns, Sefl,

& Barnes, 2001). In a sample of community women (N = 112), mental health counseling and use of rape crisis centers were rated as the most healing (70% and 75% respectively) (Campbell et al., 2001). Emotional support from counselors was rated by female participants (n = 103) as significantly more healing ($p < .05$) than emotional support from romantic partners, family members and the legal/medical systems (Ahrens et al., 2009). Counseling was perceived to be the most beneficial for sexual assault survivors by both mental health providers (Artime & Buchholz, 2016) and the survivors themselves (Ahrens et al., 2009; Hassija & Turchik, 2016). The study by Artime & Buchholz (2016) examined mental health providers' perceived effectiveness of university counseling centers for sexual assault survivors. The survivors' perceived effectiveness of counseling services was not examined in this study.

In a general population sample of sexual assault survivors (n = 243), several factors were correlated with higher rates of perceived helpfulness of mental health providers: participant's age older than 30 years, assailant use of a weapon, meeting criteria for a PTSD diagnosis, feeling more in control of the recovery process, and perceiving greater emotional support from social reactions ($p < .10$). Factors such as assailants who were strangers, higher levels of self-rated victim "upset" after the assault, and receiving greater blaming reactions from informal sources were associated ($p < .10$) with perceiving mental health professionals as more unhelpful (Starzynski & Ullman, 2014). In this same study, childhood sexual assaults and assault characteristics (relationship of assailant to victim, use of physical force, victim injury, alcohol use, and

perceived life threat) were unrelated to survivor's perceived helpfulness of mental health providers.

The use of rape crisis centers and community counseling centers was found to be beneficial and improve survivors' (n = 87) perceived control over life, panic attacks, depression symptoms, suicidal ideations, and wellness for work and/or study (Westmarland & Alderson, 2013). In addition, survivor's advocates have also demonstrated beneficial outcomes. Those survivors who had the assistance of a survivor advocate were more likely to report the assault to the police, less likely to be treated negatively by the police or medical personnel, more likely to receive comprehensive medical services, less likely to experience self-blame, and more likely to report less distress (Campbell, 2006).

In a study by Ahrens et al. (2009) examining healing or hurtful social reactions female sexual assault survivors received from support providers, the researchers combined legal and medical support providers into one category. In this study, the legal/medical combined category demonstrated the lowest rating for perceived emotional support contributing to healing post-assault. Campbell et al. (2001) found that medical support received a rating of healing for 47% of respondents and hurtful for 29%, whereas the legal system received a rating of healing for only 35% of respondents and 52% of respondents rated as hurtful. In a study of college female sexual assault survivors (n = 117), researchers found that respondents who received positive reactions from formal support providers had higher ratings of positive life changes after a negative event (p <

.001, *pr* = .62) (Borja et al., 2006). These findings support evaluating perceptions of medical services separate from legal services.

University-Affiliated Resources for Sexual Assault Survivors

Legislation & federally mandated requirements. Sexual assault has become a topic of interest in the popular media in recent years and the extent of federal mandates to address sexual violence against women has increased. The Clery Act called for all campuses and universities receiving federal money to disclose campus crime statistics (Kaukinen et al., 2017). The 'Dear Colleague' letter written by the Assistant Secretary of the Office for Civil Rights explicitly connected Title IX's definition of sexual discrimination to include sexual violence: physical acts that are against a person's will or where the person is incapable of giving consent due to drugs or alcohol (Ali, 2011). In 2013, the Violence Against Women Reauthorization Act included the Campus Sexual Violence Elimination (SaVE) Act which amended the Clery Act to mandate sexual misconduct prevention and awareness programs that would provide training and education on college campuses for the prevention of rape, dating violence, sexual assault and stalking. The Campus SaVE Act also requires all universities to provide information about survivor resources: counseling, advocacy, legal assistance, etc. In 2014, The White House Task Force issued a report that included guidance for universities on writing policies to address sexual assault; a chart specifying how Title IX, the Clery Act and the Violence Against Women Reauthorization of 2013 interact; a toolkit for universities to develop campus climate surveys; a model of confidential reporting by survivors; and a

sample memorandum for collaboration among institutions and community survivor advocacy groups (Cantapulo, 2015). This attention from the media and from government mandates has led to a proliferation of campus programs to address sexual assault and gender-based violence.

Students' knowledge of university-affiliated resources. A study of 45 universities in 21 states interviewed university representatives to assess services provided for students who experienced dating violence and sexual assault (Sabina, Verdiglione, & Zadnik, 2017). Universities reported offering on-campus counseling (80%), on-campus police services (69%), crisis centers (57%), survivor advocacy (53%), and on-campus medical assistance (51%). Services that were provided at less than 40% of universities included legal assistance, academic assistance, referral to community services, off-campus police services, on-campus housing service and a crisis hotline (Sabina et al., 2017).

College students (n = 6,866) who were exposed to campus advertisements of resources and multiple messages from the university about offered resources may have a better awareness of the resources and greater confidence in seeking assistance (McMahon & Stepleton, 2018). One study of undergraduate students (N = 227, 65% juniors or seniors) who had received education about campus resources at the beginning of their education at the university reported that only 54% of these students remembered having received any information about sexual assault resources (Hayes-Smith & Levett, 2010). The study did not assess if any students had experienced a sexual assault or had ever used

any of the university-affiliated resources. In a sample of college women (N = 234), most sexual assault survivors (n = 90) reported awareness of the psychological (90%) and health (82%) resources offered by the university (Nasta et al., 2005). Interestingly, in this same study, when the participants were given hypothetical scenarios of sexual assault victimization, the actual use of campus resources by victims was significantly less than the hypothesized use by non-victims (22% vs. 97%) (Nasta et al., 2005). College women may be aware of resources and may presume to use resources in the event of an assault; however, the actual use of resources by survivors of sexual assault is low.

Types of resources used by survivors. A systematic review of 22 research articles on college health service use by sexual violence victims reported rates of campus resource use between 5 – 48% (Stoner & Cramer, 2017). A possible reason for the discrepancy in use of resources is that studies use different instruments to measure sexual assault and use different definitions of sexual assault ranging from including any unwanted touching to including only assaults that can be defined as attempted or completed rape (Dworkin et al., 2017; Stoner & Cramer, 2017). Of those who sought services, the most common services used were campus health centers, psychological services, and campus rape crisis centers (Nasta et al., 2005; Stoner & Cramer, 2017; Walsh, Banyard, Moynihan, Ward, & Cohn, 2010).

Students' perceptions of helpfulness of resources. A sample of undergraduate women (N = 37) was asked what factors would improve the helpfulness of on-campus sexual assault survivor resources (Halstead et al., 2018). Students recommended

universities increase visibility of survivor resources and make them available at campus events, take measures to inform students of resources available, promote a campus community that demonstrates involvement in sexual violence prevention, and collaborate with survivor resources outside of the campus and student health center (Halstead et al., 2018). This study did not assess whether any of the participants had used the campus resources following an assault.

In a study examining perceived helpfulness of campus resources for female survivors of sexual assault, participants (N = 475) rated the student health's women's center as most helpful (M = 4.45, 1-5 Likert scale, 5 = most helpful) (Allen, Ridgeway, & Swan, 2015). Other campus resources assessed in this study that were also rated favorably included the university counseling center (M = 4.31), office for violence prevention (M = 4.35), student health center's general medicine clinic (M = 4.17), and campus police (M = 4.07). The resource that received the lowest rating of perceived helpfulness was residential life staff (M = 3.80). In this study, participants were not asked if they had ever experienced a sexual assault, nor were they asked if they had ever used any of the listed resources (Allen et al., 2015).

A qualitative study of college female survivors of sexual assault (N = 12) by Guerette & Caron (2007) asked what information would have been most helpful to have known after an assault occurred. Responses included contacting rape response services sooner, not blaming self, keep talking about the experience, acknowledging the assault as a rape, and having a greater understanding of both the legal process following an assault

and the services available to them (Guerette & Caron, 2007). No assessment of perceived helpfulness of the use of university-affiliated resources was completed in this study.

In the Campus Sexual Assault Study (2007), of the 657 undergraduate women who reported forced or incapacitated completed rape, only 11 contacted the crisis center or victim services program affiliated with the university, 15 sought medical services from the campus medical facility, and 14 saw a counselor or therapist affiliated with the university (Krebs et al., 2007). The majority of survivors who contacted a victim's services program, crisis center, or health care center were overall satisfied with the way their reporting of the rape was handled, and only a few regretted reporting the incident to these types of centers. In this study, the overall satisfaction of services was reported as a combination of both on- and off-campus services.

Summary

There have been consistent prevalence rates for sexual assault for college women over the past few decades despite federal mandates for colleges and universities to address prevention of sexual assault and offer services for survivors. Sexual assault has a profound effect on survivors' mental and physical health (Dworkin et al., 2017). Some women report both positive and negative mental health sequelae after an assault. Conducting research to examine both adverse as well as positive outcomes following sexual assault is important to better understand the recovery process and guide universities and healthcare providers in responding to sexual assault in an effective and meaningful way.

Studies have demonstrated mixed results about the impact of sociodemographic characteristics and mental health outcomes of survivors (Dworkin et al., 2017). Sexual assault characteristics can also have an influence on mental health consequences with more severe assaults having a more negative impact on recovery (Dworkin et al., 2017). A strong link has been found between alcohol use and sexual assault in college students. When survivors disclose an alcohol-related sexual assault, they are more likely to experience negative reactions (Lorenz & Ullman, 2016). Further research is needed to explore the associations of alcohol intoxication, assault characteristics, and demographic characteristics on the mental health outcomes of survivors.

Self-blame has been associated with increased levels of distress post-assault (Frazier, Conlon, et al., 2011). Studies have also demonstrated a possible adaptive function of self-blame in the recovery process (Hassija & Gray, 2013). Additionally, sexual assault survivors who experience more perceived control over recovery report less distress and more personal growth following an assault (Frazier, Conlon, et al., 2011). Self-blame and perceived control over recovery are influential parts of the transition to recovery and are important variables to include in studies on the mental health of sexual assault survivors.

Relatively few studies have examined the health services used by college students following a sexual assault. Much of the existing research has focused on students' awareness of resources and the facilitators and barriers to seeking help from university-affiliated resources (Sabina & Ho, 2014). College women are aware of resources and

presume to use these resources in hypothetical scenarios of sexual victimization (Nasta et al., 2005). However, resource use by survivors remains low on college campuses. One possible reason for lack of resource use could be that the university-affiliated resources offered are not appropriate, helpful or effective in the recovery from a sexual assault. Few studies have examined perceived helpfulness or satisfaction with resources and not all of these studies asked if participants had ever used the resources offered or the studies assessed community and university-affiliated resources combined rather than separately. No studies have examined the impact of the use of university-affiliated resources on mental health outcomes for survivors of a sexual assault during college.

The extant research has left a significant gap in the understanding of the relationships among characteristics of a college sexual assault, intoxication level at the time of the assault, self-blame, perceived control over recovery, use of university-affiliated resources, perceived helpfulness of resources, and the mental health outcomes of psychological distress and psychological well-being. The purpose of this study was to examine relationships among use of university-affiliated survivor resources, perceived helpfulness of the resources, and the well-being of women who experience a sexual assault during college.

CHAPTER THREE

In this chapter, the research questions, research design, sample, power analysis, instruments, data collection procedures, data analysis plan, ethical considerations, limitations of the study, and plan for dissemination of results are described.

Methodology

Research Design

This study employed a non-experimental, cross-sectional design to evaluate the impact of multiple variables on mental health outcomes of sexual assault survivors. Descriptive statistics (frequencies, means, standard deviations, and percentile estimates) were used to describe women's experiences with sexual assault resources offered by universities. Additional analyses examined the strength and direction of the relationships among demographic characteristics, sexual assault characteristics, history of sexual assault prior to college, intoxication level at the time of the assault during college, characterological self-blame, behavioral self-blame, perceived control over recovery, use of university and community resources, and mental health outcomes. Finally, this study examined the differences in mental health outcomes for survivors who used university-affiliated resources and rated them as helpful and survivors who used university-affiliated resources and rated them as unhelpful. The independent variables for this study were

demographic variables, sexual victimization prior to college, severity of the college sexual assault, intoxication level at the time of the assault, time passed since the assault occurred, characterological self-blame, behavioral self-blame, perceived control over recovery, use of university-affiliated resources, and use of community resources not affiliated with the university. The dependent variables for this study were the mental health outcomes of overall mental health, psychological distress, and psychological well-being.

Population & Sample

The target population was 18 to 24-year-old undergraduate students who identified as female and who had been sexually assaulted during their time at college. The sample was recruited from two public universities in a mid-Atlantic state with similar campus sexual assault survivor resources offered to students. The sample was drawn from a population of college females who self-identified as meeting the inclusion criteria of female, undergraduate student, aged 18-24, and had an unwanted sexual experience while in college. Convenience sampling was used for recruitment of subjects that were accessible through campus email listservs and who self-selected as willing to participate in the study. Exclusion criteria included respondents who do not identify as female, were graduate students, and were younger than 18 or older than 24 years of age. The response rate for the survey was reported. Descriptive statistics of the sample were examined. A priori power analysis was used to determine an adequate sample size needed for the study.

For correlational analyses of study variables using Pearson's r, the effect size for the power analysis can be estimated using r values from prior research. In previous studies, correlations among variables of distress, perceived control over recovery, self-blame, and sexual assault characteristics has ranged from r = .19 to .38 (Frazier, 2003; Jaffe et al., 2017; Najdowski & Ullman, 2009; Ullman, 2014). This range of r values corresponded with a sample size between 55 and 194 for a power of .80 (Polit, 2010). A power analysis for a point biserial correlation was conducted in G*Power to determine a sufficient sample size for a two tailed test using an alpha of 0.05, a power of 0.80, and a medium effect size ($\rho = 0.3$) (Faul, Erdfelder, Buchner, & Lang, 2017). The desired sample size for this situation is 82.

When using multiple regression, the sample size is estimated by the number of variables, significance level, desired power and effect size. One recommendation for sample size is to use the equation: $N \geq 50 + 8k$ where k represents the number of predictors (Polit, 2010). For this study with eight variables considered for regression analyses (severity of the assault, history of victimization prior to college, level of intoxication, behavioral self-blame, characterological self-blame, perceived control, use of university-affiliated resources, and use of community resources not affiliated with the university resources), the sample size needed to be greater than or equal to 114 [$N \geq 50 + 8(8)$]. Another recommendation for determining sample size is to have a ratio of 15 participants for each independent variable (15:1) (Mertler & Vannatta, 2013). For this

study with a total of eight independent variables, a minimum sample size of 120 was needed.

The recommended sample size for an independent samples t-test with a power of .80, alpha of .05, and small effect size of .20 is 349 per group. For a medium effect size of .50, this estimate would be 64 per group (Polit, 2010).

Since missing data in 15 - 20% of surveys is common in psychosocial research, the goal for a sample of 200 to account for possible missing values or incomplete surveys was set for this study. (Dong & Peng, 2013).

Measures

Screening for eligibility. Four questions screened for eligibility for the study. Questions asked if the participant 1) identified as female, 2) was aged 18 to 24 years, 3) was an undergraduate student, and 4) had an unwanted sexual experience during college. The screening question for unwanted sexual experiences was adapted from the American College Health Association's screening questions (American College Health Association, n.d.). Respondents must have answered "Yes" to all four screening questions to be eligible for participation.

Demographic data. Demographic questions were adapted from the College Student Health Survey by the University of Minnesota and the GeniUSS Group (Boynton Health, 2015; The GenIUSS Group, 2014). Demographic data assessed age; ethnic identity; year in school; gender identity; sexual orientation; and self-labeling of survivor, victim, or other.

Mental Health Inventory 18 (MHI-18). The MHI-18 (Veit & Ware, 1983) is an 18 item instrument derived from the original 38-item version. The instrument consists of two subscales: psychological distress and psychological well-being. Psychological distress includes *anxiety* (5 items), *depression* (4 items), and *behavioral/emotional control* (4 items). Psychological well-being includes *general positive affect* (4 items) and *emotional ties* (1 item). Each item asked the participant about a feeling (such as "feeling depressed") during the past 4-week time period, and subjects report the duration of that feeling on a six-point scale ranging from 1 = none of the time to 6 = all of the time. The items were bidirectional; that is, some asked about positive feelings and others asked about negative feelings. Items measuring psychological distress were reverse coded. For the full scale of overall mental health, scoring of items was adjusted so that the total highest achievable MHI-18 score of 108 demonstrated more psychological *well-being* and the lowest possible score of 18 demonstrated more psychological *distress* (Ritvo et al., 1997).

For the subscale of psychological *distress*, the possible range of scores is 13 – 78 with higher scores endorsing more distress. For the subscale of *well-being*, the possible range of scores was 5 - 30. with higher scores endorsing greater well-being (Ritvo et al., 1997).

The MHI has demonstrated good reliability for the full scale (Cronbach's $\alpha = .96$) and for four of the subscales [*anxiety* ($\alpha = .80$), *depression* ($\alpha = .87$), *positive affect* ($\alpha =$

.83), *behavioral control* (α = .78)] in previous studies (Veit & Ware, 1983; Yuvaraj, Poornima, & Rashmi, 2016).

Sexual Experiences Survey – Short Form Victimization (SES-SFV). The SES-SFV instrument (Koss et al., 2007) assesses victimization of unwanted sexual experiences. The SES-SFV assessed for seven different unwanted sexual experiences and the tactics used to obtain unwanted sexual contact. The score yielded information of the individual's experience of sexual victimization by category: non-victim, sexual contact, attempted coercion, coercion, attempted rape, and rape. The SES-SFV measured perpetrator behaviors that met the legal definitions of sex crimes. The final question on the instrument asked, "Have you ever been raped? Yes/No."

The SES-SFV is the most widely used measure of unwanted sexual experiences (Johnson, Murphy, & Gidycz, 2017). In a study of college women (N = 374), the researchers reported a Cronbach's alpha of .72 (Orchowski & Gidycz, 2012), evidence of an acceptable internal consistency; reliability coefficients of .70 are considered adequate (Polit & Beck, 2017). A study of the reliability and validity of the SES-SFV found an internal consistency for items to be .92 and a reliability of .70 for the overall scale (Johnson et al., 2017). The scale has been found to have comparable results whether administered in person or online (Johnson et al., 2017). The scale was also found to demonstrate good predictive validity: women with a history of sexual assault victimization reported higher rates of trauma symptomatology which was consistent with prior research (Johnson et al., 2017).

One challenge in measuring sexual assault victimization in college women is limiting the measurement time frame to sexual assaults during the college years. The SES-SFV asks respondents to reference to either the past year or since age 14. To investigate sexual assault since entering college, the original wording of the question assessing timeframe was changed from "how many times in the past 12 months" to "since entering college have you experienced." The severity of the assault was coded according to the level of acts completed with 1 considered least severe and 5 considered most severe: 1 = Sexual Contact: answered yes to and strategy listed in Question 1 regarding fondling and kissing without consent; 2 = Attempted Coercion: answered yes to strategies a and b in Question 5, 6, or 7 regarding attempted coercion; 3 = Completed Rape by Verbal Coercion: answered yes to strategies c, d, or e in Questions 2, 3, 4; 4 = Attempted Rape by Incapacitation or Force: answered yes to strategies c, d, or e on Questions 2-7; and 5 = Completed Rape by Incapacitation or Force: answered yes to strategies c, d or e on items 2, 3, or 4. (Davis et al., 2014; Koss et al., 2007). Each participant was scored based on the most severe act perpetrated. Permission to use the SES was granted by Koss et al. (2007).

Time passed since assault occurred. One question assessed for the amount of time passed since the assault occurred (1 = in the past 6 months, 2 = 6 months to 1 year, 3 = 1 - 2 years ago, 4 = 2 or more years ago).

History of victimization prior to entering college. One question assessed if participants had any of the experiences listed on the SES-SFV prior to entering college:

"Did you have any unwanted sexual experiences prior to entering college?" The responses were coded as 1 = Yes and 0 = No for use in statistical analyses.

Intoxication level. One item was used to assess for level of intoxication from alcohol or drugs. This item was used in a study of community women aged 18 – 26 years (n = 143) (Jaffe et al., 2017). "During or just prior to the unwanted sexual activity, how intoxicated were you?" Answers include 0 = not at all, 1 = a little, 2 = somewhat, 3 = quite a bit, 4 = very intoxicated. Studies that have examined college students' ability to estimate blood alcohol concentrations (BAC) found a significant positive linear association between estimated and actual BAC; however, participants tended to overestimate their level of intoxication when the BAC was lower and underestimate their BAC when the BAC was higher (Grant, LaBrie, Hummer, & Lac, 2012; Thombs, Olds, & Snyder, 2003). An additional study demonstrated a significant moderate correlation between perceived drunkenness and BAC, and consistent with prior research, these researchers found an underestimation of one's BAC when the BAC was higher (Rossheim et al., 2017). In the current study, participants were not be asked to estimate BAC; rather, they were asked to describe their perceived level of intoxication at the time of the sexual assault that occurred in college.

Rape Attributions Questionnaire (RAQ). The RAQ is a 25-item self-report measure of attributions made by survivors of sexual assault about why the assault happened (Frazier, 2003; Frazier, Keenan, et al., 2011). Each item asked the participant about a feeling they may have had in the past month. Three subscales of the full scale

were used in this study: behavioral self-blame, characterological self-blame, and perceived control over recovery. The subscales of self-blame and perceived control over recovery demonstrated greater impact on post-assault adjustment than the other subscales assessing future control over an assault and future likelihood of an assault (Frazier, 2003; Frazier, Mortensen, & Steward, 2005). The three subscales of behavioral self-blame, characterological self-blame, and perceived control over recovery have been used in previous studies (Najdowski & Ullman, 2009). The other sub-scales measuring future control, the control over future traumas, were not included as variables in this study.

Behavioral self-blame assessed how often the survivor experienced feelings of attributing the sexual assault to a specific behavior the survivor engaged in that could have been modified, "I should have resisted more." Characterological self-blame assessed feelings of attributing the sexual assault to something about the survivor that is not modifiable, "I am just the victim type." Each item was rated on a 5-point Likert scale of 1 = never and 5 = very often. The scores of the two subscales of self-blame were examined separately. Each subscale produced a score ranging from 5 – 25 with a higher score representing more self-blame. The two subscales have demonstrated excellent reliability when used separately in previous studies: behavioral (α = .87), characterological (α = .82) (Frazier, Keenan, et al., 2011).

The perceived control over recovery subscale was rated on a 5-point Likert scale and resulted in a score ranging from 5 – 25 with a higher score representing more perceived control over recovery (1 = strongly disagree, 5 = strongly agree). An example

of an item was "I am confident that I can get over this if I work at it." The measure has demonstrated good reliability when previously used in samples of sexual assault survivors (Cronbach α = .69 to .84) (Frazier, 2003; Frazier et al., 2004; Najdowski & Ullman, 2009).

University-affiliated resources and perceived helpfulness. For the purposes of this study, university-affiliated survivor resources were defined as those resources that provided mental and physical health support and services after a sexual assault and were provided by the college or university. University-affiliated resources were also referred to as campus resources. These resources included campus counseling centers, rape crisis centers, university health centers, 24-hour hotline or support access, survivor/victim's advocate, support groups, and peer counseling. The list of resources was developed from available resources listed on the websites of the universities included in this study. A blank space was left for participants to list "other" campus resources they used that were not provided on the survey list. Only resources that provided mental and physical health support and services and were provided by the college or university were included in this study for analysis. Organizational-based resources such as legal supports, residential life resources, or academic resources provided by colleges and universities (Title IX Coordinator, campus police, resident advisors, etc.) were not included in analyses.

First, participants were asked to "Please indicate whether you contacted or used any of these university offered resources regarding any of the unwanted sexual experiences occurring during college." All items were coded as 0 = No and 1 = Yes.

Then, for each of the resources used, the participants were asked to rate the perceived helpfulness of the resource.

Perceived helpfulness was one's perception of how helpful each resources was in the recovery process following a sexual assault (Kuramoto-Crawford et al., 2015; Starzynski & Ullman, 2014). Participants were asked to ""This resource **helped me** after the unwanted sexual experience." Perceived helpfulness was measured on a 5-point Likert scale (1= strongly disagree to 5 = strongly agree) for reporting in descriptive statistics. Internal consistency for use of this measure in a study was very good (α = .85 for female survivors) (Allen et al., 2015). An additional question ("Overall, did you find the university's resources/services helpful?") assessed overall perceived helpfulness and was coded as 1 = Yes and 0 = No for use in statistical analyses.

Use of community resources. A final question assessed if participants used any off-campus or community resources not connected with the university since the sexual assault occurred. "Did you use any off-campus or community resources after any of the unwanted sexual experiences occurring during college?" The responses were coded as 1 = Yes and 0 = No for use in statistical analyses.

Open-ended question. One final open-ended question provided an opportunity for participants to add any information not captured in the other survey items. "Is there anything else you would like to add about resources offered by your university for sexual assault survivors?" Data collected from this question was used for descriptive purposes.

Data Collection Procedures

Potential participants received an email through the university's undergraduate student listserv at one university. At the second university, emails were sent through college or student organization listservs. The email invited female undergraduate students to participate in a study about survivors of sexual assault. The email included a link to an online survey accessible from a computer, laptop or mobile device. Each university received a separate hyperlink to a survey of identical questions to allow for statistical analyses of potential differences in responses between the university subsamples. The survey created with the Qualtrics software program (*Qualtrics*, 2018), began with four screening questions to assess eligibility to participate in the study. If participants did not meet all four criteria, they were thanked for their time and the responses were recorded for the purposes of reporting the response rate. If the participant did meet all four criteria, they were directed to the cover letter and consent form. The cover letter explained the study and the elements of informed consent (i.e. purpose of the study, risks, benefits, etc.). Subjects were asked to check "Yes" to indicate consent or "No" to exit the survey. If they checked "No" to consenting to the survey, they were thanked for their time and the survey closed. If they checked "yes," the participant was directed to the first page of the survey.

After the demographic data were collected, the MHI-18 was administered. Subsequently, the Sexual Experiences Survey – Short Form Victimization (SES-SFV) was administered. Participants were then asked their level of intoxication at the time of

the assault and the amount of time passed since the assault. Next, participants were asked if they had experienced a sexual assault prior to entering college; the subscales of characterological self-blame, behavioral self-blame, and perceived control over recovery from the Rape Attributions Questionnaire; use of the university's survivor resources; use of any community offered resource; and perceived helpfulness of the university-affiliated resources used (Kuramoto-Crawford, Han, Jacobus-Kantor, & Mojtabai, 2015; Starzynski & Ullman, 2014). Finally, participants were thanked for their participation in the research and directed to a page with resources for sexual assault survivors. The survey remained open for 30 days.

At the end of the survey period, data was download from the Qualtrics server as a Statistical Package for the Social Sciences (SPSS v.25) compatible file for analysis. Data was stored on a password-protected computer.

Data Analysis Plan

In preparation for data analyses, the dataset was reviewed for possible errors in coding or missing values. Any participant who scored a zero on the SES-SFV (0 = no sexual assault) or was missing all items on the MHI-18, SES-SFV, or all three subscales of the RAQ were excluded from the analyses. All remaining items had less than 3% of data missing. The mean was substituted for missing continuous items and the mode was substituted for missing categorical items. Cronbach's alpha was used to measure the reliability of all scales. Chi Square tests and t-tests were conducted to examine differences between the two schools for demographic variables (age, ethnicity, and sexual

orientation), resource use, and outcome variables (MHI-18 scores). Descriptive statistics were used to describe the sample, sexual assault characteristics, and mental health of the participants. Means and standard deviations were calculated for continuous variables and frequencies for categorical variables.

The next phase of data analysis consisted of computing frequency distributions and interpreting graphical presentations of data with histograms, box plots, and scatter plots. Normality was assessed by examining histograms. Cronbach's alpha coefficients were calculated for each instrument and subscale. A Cronbach's alpha of .70 was considered adequate in this study (Polit, 2010). A significance level of .05 is a widely accepted standard in behavioral research and was used in this study to determine significance of statistical tests.

Demographic Data. Sample characteristics were summarized with means and standard deviations for interval level data (age) and frequencies and percentile estimates for nominal or ordinal level data (ethnic identity, year in school, gender identity, sexual orientation, self-labeling). Any demographic variables significantly correlated with the dependent variables were included in the final multiple regression equations. Demographic characteristics were described for the full sample of participants and the subsample who used university-affiliated resources.

Research Question 1: What are the characteristics of women who used university-affiliated survivor resources following a sexual assault during college? Characteristics of women who used university-affiliated resources and who did not use

university were summarized with frequencies and percentile estimates for both subsamples of participants.

Research Question 2: What are the relationships between mental health outcomes of women who experience a sexual assault during college and demographic characteristics, history of victimization prior to college, sexual assault experiences, characterological self-blame, behavioral self-blame, perceived control over recovery, use of community resources, and use of university-affiliated resources? Relationships of variables with campus resource use were examined with Chi-Square, point biserial and Pearson's correlation tests. Strengths and directions of relationships between study variables and mental health outcomes were examined by performing point biserial for dichotomous categorical variables or Pearson's correlation for continuous variables. Sexual orientation (heterosexual = 1, other sexual identities = 0), ethnicity (white = 1, other ethnicities = 0), history of a sexual assault prior to college (yes = 1, no = 0), use of campus resources (yes = 1, no = 0), and use of community resources (yes = 1, no = 0) were recoded to dichotomous variables for bivariate correlations. Relationships were examined for the full sample of participants and also for the subsample of participants who endorsed using university affiliated survivor resources.

Sequential multiple regression was used to describe the incremental variance in the outcome variable that was explained by the control and independent variables when added to the analysis in a series of controlled, pre-determined steps (Polit, 2010). In the first step of the regression models, the variable that has not been examined in previous

studies, campus resource use, was entered. In the second step, demographic variables significantly correlated with any of the mental health outcomes were added into the models. In the final step, independent variables that had significant correlations with mental health outcomes (total MHI-18 total score of overall mental health, the MHI-18 subscale of well-being, and the MHI-18 subscale of distress) were added to the models. Statistical significance was set at a value of $p < 0.05$ for all analyses in this study.

Assumptions of sequential multiple regression statistical testing were examined. The relationships among the independent variables and the dependent variables were examined for a linear relationship. Residual scatterplots were examined for an even distribution of points and no clear patterns were found to indicate a violation of the assumptions of regression testing. Homogeneity of variance was assessed. All variance inflation factor values in the model were less than 10.0, and all tolerances were greater than 0.1, indicating the model had no multi-collinearity. Multiple regression can be sensitive to outliers; therefore, a Mahalanobis distance test was examined and no outliers were noted (Hatcher, 2013; Mertler & Vannatta, 2013; Polit, 2010).

Research Question 3: Which university-affiliated survivor resources are used by female survivors of sexual assault? Use of university-affiliated resources was summarized with frequencies and percentile estimates for the subsample of participants who indicated using resources.

Research Question 4: What is the perceived helpfulness of university-affiliated survivor resources? For the subsample of participants who reported using

university-affiliated resources, perceived helpfulness was assessed, and findings were summarized with means and standard deviations for each resource.

Research Question 5: Are there significant differences in mental health outcomes between survivors who used university-affiliated resources and rated them as helpful and survivors who used university-affiliated resources and rated them as unhelpful? A series of t-tests were conducted to examine for differences between participants who perceived university-affiliated resources as helpful and those who perceived them as not helpful for age; MHI Total; MHI Well-being subscale; MHI Distress subscale; and RAQ subscales of characterological self-blame, behavioral self-blame, and perceived control over recovery. Assumptions of the t-test were examined. The distribution of scores on the dependent variable were assessed for normality with histograms. Homogeneity of variance was assessed.

Ethical Considerations

Research on sensitive topics such as sexual assault is essential for developing a better understanding of this public health issue and reducing the incidence on college campuses. Because of the sensitive nature of the topic, researchers should anticipate and take steps to mitigate any potential ethical challenges in the research and dissemination process (Lo, 2010). Institutional Review Board for Human Participants approval was obtained from both universities involved in the study. A cover letter describing the study and a link to the online survey containing informed consent and survey questions was sent via email to all potential participants. Informed consent provided information about

how data and identities of the participants were protected, that the content of the survey was sensitive in nature, that there was no collection of personal information to link to survey responses, that participation was voluntary and could be discontinued at any time, and whom participants may contact for questions (Lo, 2010). Informed consent and all survey responses were collected online using the Qualtrics software. Participants did not provide any identifiers, names or email addresses. Only aggregate data was presented representing averages and generalizations about the responses as a whole. No individual data was reported, and no individual data was linked to participant identifiers. All data was stored on a password protected computer or in a locked file cabinet in the researcher's office.

The researchers completed ethics training in human subject research. It was made clear to all subjects in the cover letter and informed consent that participation in the study was voluntary and confidential. Given that all participants in the study were survivors of sexual assault, participants were told they may withdraw from the survey at any time and did not have to answer any questions that made them feel uncomfortable. All participants were provided with the phone number and website for the national sexual assault telephone hotline and website. This resource is available 24-hours a day, offers confidential support from a trained staff member, and provides assistance finding a local healthcare facility trained in caring for survivors of sexual assault ("About the National Sexual Assault Telephone Hotline | RAINN," n.d.).

Benefits of this research are indirect and were not likely to benefit the participant at the time of the study. The potential benefits to public health and society are large. This study adds to the knowledge of how college campuses, college health centers, and peer advocates can better respond to survivors of sexual assault, thus potentially improving coping and health outcomes of survivors. The results of this study may also provide survivors' advocacy groups on campuses valuable resources for survivor response teams.

Limitations

The proposed study had several limitations. The current study consisted of a generally homogenous sample of college women. The results may not be generalizable to other populations with diversity of age range, ethnicity, sexual orientation, and education level. In addition, the study was conducted using convenience sampling through two universities' student email listservs. Two identical surveys were created. A separate link was sent to each university. The majority of participants were from one university; and therefore, may not represent the population of sexual assault survivors or campus resources available at other universities. Differences between universities was assessed, however the sample sizes of the two universities were uneven. It was possible that those who self-selected to participate in the study may have had different characteristics than the total population of sexual assault survivors on a college campus such as more distress, more self-blame, or less perceived control over recovery. The sample was not assessed for pre-existing mental health conditions diagnosed prior to when the assault occurred. Additionally, those who experienced more distress or self-blame after the assault may

have been more likely to seek resources; and therefore, may have rated these variables higher despite receiving formal support after their assault.

The study's non-experimental, cross sectional design had inherent limitations. The study relied on self-report and the participant's memory of the sexual assault characteristics and intoxication level. Accuracy of self-report may have been limited by time lapsed, memory of the event and ability of participants to judge intoxication level. The cross-sectional nature of the data collected made it impossible to draw conclusions about causal inferences between victimization, use of university-affiliated resources and mental health outcomes. Many other variables unrelated to the sexual assault may have had an impact on a person's mental health. The scope of this study did not include other variables that may have had an effect on mental health outcomes: disclosure experiences with informal resources, mental health diagnoses prior to sexual assault, extent of use of campus survivor resources, or perceived distress of the assault experience.

Reliable and standardized measures were selected for the study. More elaborate and comprehensive measures of psychological distress exist to evaluate specific diagnoses of anxiety, depression, and PTSD. The SES-SFV is a widely used, reliable scale that demonstrates good predictive value of mental health outcomes (Johnson et al., 2017). A limitation of the SES-SFV was the assessment of sexual victimization for women who endorsed multiple items on the scale. Sexual assault characteristics were categorized according to the most severe experience as has been done in numerous studies (Donde, 2017; Hansen et al., 2017; Ullman et al., 2007). Number of assaults or

multiple characteristics of assault were not variables examined in this study and may have had an effect on mental health outcomes.

CHAPTER FOUR

This chapter includes a summary of the results of research questions 1 and 2. A manuscript with the complete results and discussion follows.

Summary of the Results

Research Question 1: What are the characteristics of women who used university-affiliated survivor resources following a sexual assault during college?

The majority of women (n = 264, 72.9%) did not use campus resources following a sexual assault. No significant relationships were found between campus resource use and age, year in school, sexual orientation, ethnicity, intoxication level at the time of the assault, time passed since the assault, or perceived control over recovery. Women who used university-affiliated resources were more likely to also use off-campus or community resources (54.5%) than respondents who did not use community resources (19.6%) (X^2 = 37.39, df 1, p < .001, Cramer V = .321). Women who used university resources were more likely to have experienced a sexual assault prior to entering college (32.6%) when compared to women who with no history of prior victimization (22.1%) (X^2 = 4.99, df 1, p = .025, Cramer V = .117). Of women who met the SES-SFV definition

of rape (n = 210), only 59.0% acknowledged the sexual assault as a rape. Women who acknowledged their sexual assault as a rape were more likely to use campus resources (45.5%) than women who did not acknowledge their assault as a rape (22.1%) (X^2 = 12.08, df 1, p = .001, Cramer V = .240).

Campus resource use was significantly, positively correlated with more distress (r = .223, p < .001), characterological self-blame (r = .163, p = .002), and behavioral self-blame (r = .135, p = .010). Campus resource use was also significantly correlated with more severe sexual assaults (r = .244, p < .001). Use of campus resources was significantly, negatively correlated with overall mental health (r = -.227, p < .001) and psychological well-being (r = -.185, p < .001). These findings suggested that women who used campus resources experienced more severe sexual assaults, more self-blame, and more psychological distress.

Research Question 2: What are the relationships between mental health outcomes of women who experience a sexual assault during college and demographic characteristics, history of victimization prior to college, sexual assault experiences, characterological self-blame, behavioral self-blame, perceived control over recovery, use of community resources, and use of university-affiliated resources? Having more self-blame, experiencing an assault prior to entering college, and using community resources were associated with poorer mental health outcomes and more psychological distress. Having more perceived control over the recovery process, being more intoxicated at the

time of the assault, having more time passed since the college assault occurred, and identifying as heterosexual were associated with more positive mental health outcomes.

To examine the unique contribution of campus resource use in explaining mental health of women who have been sexually assaulted while in college, sequential multiple regression analyses were performed. All models were significant: overall mental health [$R^2 = .336$, $R^2_{adj} = .315$, $F(11, 350) = 16.09$, $p < .001$], well-being [$R^2 = .283$, $R^2_{adj} = .260$, $F(11, 350) = 12.55$, $p < .001$], and distress [$R^2 = .310$, $R^2_{adj} = .288$, $F(11, 350) = 14.30$, $p < .001$]. Campus resource use remained a significant predictor in all steps of all three models: overall mental health, well-being, and distress. Using campus resources was significantly associated with poorer overall mental health, less well-being, and more psychological distress.

In the final model, better overall mental health was associated with not using campus resources, identifying as heterosexual, being more intoxicated at the time of the assault, having less characterological self-blame, and more perceived control over recovery. Psychological well-being was associated with not using campus resources, identifying as heterosexual, describing ethnicity as white, being more intoxicated at the time of the assault, having more time passed since assault occurred, experiencing less characterological self-blame, and experiencing more perceived control over recovery. More psychological distress was associated with using campus resources, not identifying as heterosexual, experiencing more characterological self-blame, and feeling less perceived control over the recovery process.

Manuscript

Sexual Assault, Campus Resource Use, and Psychological Distress in Undergraduate Women

Abstract

Undergraduate women are at high risk of experiencing sexual assault during their college years. Research has established a strong link between sexual victimization and psychological distress. While the relationship between sexual victimization and distress has been established, little is known about how the use of university-affiliated sexual assault resources influences mental health outcomes for survivors. The aims of this cross-sectional study were to describe the characteristics of women who used campus survivor resources following a sexual assault during college, examine correlates of campus resource use, and examine correlates and predictors of mental health of women who have been sexually assaulted during college. An online anonymous survey was sent to undergraduate women at two public universities in a mid-Atlantic state. Participants were female, undergraduate students (N = 362) who had been sexually assaulted during their time at college. Few women (n = 98, 27.1%) used campus resources following a sexual assault. We found significant relationships between participants' use of campus survivor resources and experiencing a sexual assault prior to entering college, experiencing more severe sexual assaults, acknowledging the assault as a rape, feeling more self-blame, and experiencing more psychological distress. Campus resource use was a significant associated with poorer mental health outcomes. The cross-sectional nature of this study

limits our ability to explore the reason for this. Further research is needed to explore the effectiveness of campus resources in supporting survivors in the recovery process. Given the high rate of sexual assaults on college campuses and the known negative psychological impact of sexual assault, it is imperative that campuses offer resources that are effective in meeting the needs of survivors.

Keywords: sexual assault, college students, help-seeking, psychological distress, campus resources

Introduction

Background

Approximately 21% of undergraduate women experience a sexual assault during their college years (Krebs, Lindquist, Berzofsky, Shook-Sa, & Peterson, 2016). This rate did not differ significantly in the time period from 1997 to 2013 (Sinozich & Langton, 2014). Women aged 18-24 have the highest rates of sexual assault victimization compared to all other age groups (Sinozich & Langton, 2014). Prior research has established a strong link between sexual victimization and psychological distress (Dworkin, Menon, Bystrynski, & Allen, 2017). While the relationship between sexual victimization and distress has been established, little is known about how the use of university-affiliated sexual assault resources influences mental health outcomes for survivors. This study adds to the body of literature by examining the impact of formal help-seeking on mental health outcomes of women who used university-affiliated survivor resources after experiencing a sexual assault during college.

Mental Health Outcomes of Sexual Assault Survivors

Survivors of sexual assault can experience multiple forms of psychopathology including post-traumatic stress disorder (PTSD), depression, anxiety, increased suicide risk, disordered eating, and/or substance abuse (Dworkin et al., 2017). In one college health survey, women who experienced a sexual assault during college reported symptoms of anxiety (19.8%), depression (19.0%), panic attacks (8.9%), and PTSD (6.4%) (Eisenberg, Lust, Hannan, & Porta, 2016). In this same study, survivors also rated

their emotional health as *poor* an average of 11 out of the past 30 days. A study of undergraduate students (N = 64,910) at 108 U.S. institutions found that when comparing those who have been sexually assaulted to those who have not, survivors reported more feelings of loneliness (79.8% vs. 58.7%), hopelessness (70.6% vs. 46.5%), difficulty functioning (57.6% vs. 31.2%), overwhelming anxiety (75.4% vs. 54.8%), and sleep problems (45% vs. 26.2%) (American College Health Association, 2016). In another study, survivors of sexual violence reported significantly more suicidal ideations within the previous 12 months when compared to non-victims (26% versus 4%) (Leone & Carroll, 2016). In fact, sexual assault has been more strongly associated with suicidality than other forms of trauma (Dworkin et al., 2017; Leone & Carroll, 2016).

The characteristics of sexual assault may influence mental health sequelae. Many studies have examined relationships between mental health outcomes and sexual assault characteristics such as relationship of the survivor to the perpetrator, use of force, use of a weapon, completed rape, and time since the assault occurred. Researchers have detected significant correlations between distress level and assaults that involve strangers as perpetrators, penetration, perceived life threat, or the use of physical force (Blayney & Read, 2018; Dworkin et al., 2017; Ullman et al., 2006; Zinzow et al., 2012). These studies also suggested that more severe assaults may have a more negative impact on a victim's recovery.

Women who were drinking alcohol prior to a sexual assault were more likely to experience psychological distress (Lorenz & Ullman, 2016). In a sample of women aged

18-26 (N = 143), Jaffe et al. (2017) found a significant positive correlation between the level of alcohol intoxication and PTSD symptoms reported. In contrast, Blayney, Read & Colder (2016), found the level of alcohol intoxication was not significantly associated with post-traumatic stress symptoms in a sample of college students (N = 220). Given that 79% of sexual assaults in the college population involve alcohol use by the victim, perpetrator, or both, assessing intoxication level and its relationship with post-assault distress is important in samples of undergraduate college students (Kilpatrick, Resnick, Ruggiero, Conoscenti, & McCauley, 2007).

Self-blame

Self-blame is a common experience for survivors of sexual assault (Donde, 2017; Littleton, Grills-Taquechel, & Axsom, 2009; Ullman & Najdowski, 2010) and is theorized to be related to a loss of control during the assault and feelings of responsibility for the assault (Frazier, 2003). Self-blame can have a negative impact on emotional and mental health and has been associated with higher levels of PTSD symptoms and depression (Campbell, Dworkin, & Cabral, 2009; Donde, 2017; Peter-Hagene & Ullman, 2018). Research has provided evidence for two types of self-blame that can be experienced following a sexual assault: characterological and behavioral (Frazier, 2003). Behavioral self-blame is defined as feelings of attributing the rape to a specific behavior the survivor engaged in that could have been modified. For example, a woman may blame herself for certain behaviors such as drinking alcohol prior to the assault or not resisting enough during the assault. Characterological self-blame is defined as feelings of

attributing the rape to something about the survivor's character that is not modifiable. For example, a woman may blame herself for being too careless, too trusting, or unlucky (Frazier, Keenan, et al., 2011).

Both characterological and behavioral self-blame have been associated with increased levels of distress following an assault (Breitenbecher, 2006; Frazier, Keenan, et al., 2011; Ullman et al., 2007). Studies demonstrated that characterological self-blame had greater negative effects on post-assault adjustment than behavioral self-blame (Breitenbecher, 2006; Peter-Hagene & Ullman, 2018; Ullman et al., 2007). One study demonstrated significant, positive correlations for not only characterological self-blame and PTSD symptoms ($r = .46$, $p < .01$), but also for characterological self-blame with depression ($r = .43$, $p < .01$) and anxiety ($r = .36$, $p < .01$) (Hassija & Gray, 2013). Breitenbecher (2006) found that characterological self-blame was a more important predictor of distress than the frequency of past victimization (Breitenbecher, 2006). Survivors who experienced more behavioral self-blame less often disclosed their sexual assaults to mental health providers, whereas survivors who reported more characterological self-blame more often reported their assaults to mental health providers (Starzynski, Ullman, Townsend, Long, & Long, 2007). This may have been the result of increased distress experienced by survivors who had higher levels of characterological self-blame and therefore, sought mental health services to alleviate their distress.

Perceived Control over Recovery

Survivors who reported more control over the recovery process also reported less distress, less PTSD, and greater life satisfaction (Frazier, 2004). Control over the recovery process was found to be the most adaptive and had the strongest relationship with a decrease in psychological distress (Frazier, 2004). Present control over the recovery process has also been associated with less distress across multiple studies of diverse samples with a variety of traumatic life events (Frazier, 2003; Frazier, Keenan, et al., 2011; Najdowski & Ullman, 2009; Ullman et al., 2007). Control over recovery was found to be associated with lower scores of depression, anxiety, stress, and PTSD scales as well as significantly less self-reported binge drinking in a sample of college students experiencing a traumatic life event (Frazier, Keenan, et al., 2011). A qualitative study of sexual assault survivors (n = 8), survivor advocates (n = 19), and healthcare providers (n = 6) explored participants' ideal components of post-assault care and found that participants recommended interventions that optimized survivor control over the recovery process (Munro-Kramer, Dulin, & Gaither, 2017).

Use of Resources

Evidence has suggested that disclosure to formal resource providers and the use of mental health resources may contribute to decreased psychological distress and increased well-being for women who are survivors of sexual assault (Hassija & Turchik, 2016). However, the majority of college women do not report or disclose their sexual assault to formal resources (healthcare providers, crisis agency, counselor, or police) (Sabina & Ho, 2014). In fact, college women were less likely to report a sexual assault than non-college

women of the same age range (18 – 24) (Sinozich & Langton, 2014). Lack of disclosure of the assault may hinder women from receiving the resources they needed to recover. In a national sample of college women, only 18.7% of rape survivors received medical attention and only 17.8% sought advice from a survivor support agency (Wolitzky-Taylor et al., 2011). In another national campus climate survey of nine colleges and universities, the majority of rapes were disclosed to an informal source; but very few (12.5%) were disclosed to any formal service at the university or in the community (police, university administration, hospital or health center, rape crisis center) (Krebs et al., 2016).

The desired outcome of help-seeking is that it will decrease levels of psychological distress for survivors of sexual assault. Though counterintuitive, research has also found help-seeking may not always result in positive outcomes (Campbell, Wasco, Aherns, Sefl, & Barnes, 2001). Sexual assault survivors who rated their experiences with the medical system as hurtful (29%, n = 102) also reported more psychological distress and physical health symptoms (Campbell et al., 2001). Although some research has examined help-seeking facilitators and barriers in college sexual assault victims, few studies have investigated the relationship between help-seeking and psychological distress. In this study, we aimed to describe the characteristics of college women who used campus survivor resources, examine correlates of campus resource use, and examine correlates and predictors of mental health outcomes in a sample of women who have been sexually assaulted during college.

Methods

Sample and Setting

To be eligible for this study, participants had to be undergraduate college students who identified as female, were aged 18-24, and had experienced a sexual assault during college. Of the 1,001 students who responded to the email recruitment notice, 485 met the eligibility criteria, 475 consented to participate and 362 (mean (M) age = 20.21, standard deviation (SD) = 1.40) completed the measures. The participants were recruited from two public universities in the same Mid-Atlantic state (university 1: n = 326, 90.1%, university 2: n = 36, 9.9%). The majority of participants were white (79.3%) and identified as heterosexual (81.5%). All participants identified as cisgender females.

Procedures

Institutional Review Board approval was obtained from both universities. An invitation to participate in this study was sent to all female students through one university's student email listserv and through departmental and student organization email listservs at the second university. The email contained a link to screening questions, informed consent, and the anonymous online survey. Participation was voluntary, and no compensation was provided. Every page of the survey contained information on psychological resources and support services for sexual assault survivors. After 30 days, the survey closed, and data was downloaded to an SPSS v.25 compatible file for statistical analysis.

Measures

Demographics. Demographic data including age, year in school, gender identification, sexual orientation, and ethnicity were collected and are presented in Table 1.

Sexual assault experiences. For this study, sexual assault was broadly defined as any sexual contact or sexual behaviors that occurred without the consent of the recipient including forced sexual intercourse, forced sodomy, forced oral sex, fondling or unwanted sexual touching, and attempted rape. Force can encompass physical or psychological force, coercion, or threats ("Sexual Assault | OVW | Department of Justice," 2017). The Sexual Experiences Survey-Short Form Victim (SES-SFV) was used to collect data on unwanted sexual experiences (Koss et al., 2007). The phrasing of the original question asking about sexual victimization *since the age of 14* was changed to ask the participant if they had experienced any of the unwanted sexual acts *since entering college*. One question assessed for the amount of time passed since the assault occurred (1 = in the past 6 months, 2 = 6 months to 1 year, 3 = 1 - 2 years ago, 4 = 2 or more years ago). The SES-SFV was designed to measure sexual assault severity from least to most severe (0 = no sexual assault, 1 = unwanted sexual contact, 2 = attempted coercion, 3 = coercion, 4 = attempted rape, 5 = rape) (Koss et al., 2007) and the score has been used as a continuous variable in statistical analyses (Davis et al., 2014). The final question of the SES-SFV asked participants "Have you ever been raped?" (1 = yes, 0 = no). The reliability and validity of the SES-SFV in previous studies demonstrated a reliability of a Cronbach's alpha = .70 for the overall scale (Johnson, Murphy, & Gidycz, 2017). The

scale was found to have comparable results whether administered in person or online (Johnson et al., 2017). The SES-SFV demonstrated good reliability in the current study's sample (Cronbach's alpha = .82).

To assess for prior victimization, one question asked if participants had any of the experiences listed on the SES-SFV prior to entering college. The responses were coded as 1 = "yes" and 0 = "no" for use in statistical analyses.

Intoxication. One item was used to assess for level of intoxication from alcohol or drugs. "During or just prior to the unwanted sexual activity, how intoxicated were you?" Answers ranged from 1 (not at all) to 5 (very intoxicated). This item was used in a previous study of community women aged 18 – 26 years (n = 143) (Jaffe et al., 2017).

Rape Attributions Questionnaire (RAQ). Three of the 5-item subscales of the RAQ were used to measure sexual assault survivors' attributions about why the assault occurred and perceived control over the recovery process (Frazier, 2003). The behavioral self-blame subscale (RAQ-BSB) assessed feelings of attributing the sexual assault to a specific behavior the survivor engaged in that could have been modified, "I should have resisted more." The characterological self-blame subscale (RAQ-CSB) assessed feelings of attributing the sexual assault to something about the survivor's character that was not modifiable, "I am just the victim type." Each self-blame subscale asked about feelings in the past month and produced a score that ranged from 5 – 25 with a higher score representing more self-blame (1 = never, 5 = very often). The two subscales demonstrated excellent reliability when used in previous studies: behavioral (Cronbach's

alpha = .87), characterological (Cronbach's alpha = .82) (Frazier, Keenan, et al., 2011). The RAQ subscales of behavioral self-blame (Cronbach's alpha = .87) and characterological self-blame (Cronbach's alpha = .74) demonstrated good reliability in the current study's sample.

The perceived control over recovery subscale was rated on a 5-point Likert scale and resulted in a score ranging from 5 – 25 with a higher score representing more perceived control over recovery (1 = strongly disagree, 5 = strongly agree). An example of an item was "I am confident that I can get over this if I work at it." The measure demonstrated good reliability when used in samples of sexual assault survivors (Cronbach α = .69 to .84) (Frazier, 2003; Frazier et al., 2004; Najdowski & Ullman, 2009). The reliability of the subscale measuring perceived over recovery demonstrated a Cronbach's alpha of .64 for the sample in the current study.

Resource use. University-affiliated survivor resources, also referred to as campus resources, were defined as those resources that provided mental or physical health support for sexual assault survivors and were offered by the college or university; campus resources included campus counseling centers, campus rape crisis centers, university health centers, campus 24-hour hotline, survivor/victim's advocates, campus support groups, and peer counseling (Eisenberg et al., 2016; Sabina & Ho, 2014; Stoner & Cramer, 2017). Campus resources did not refer to administrative or legal resources: campus police, Title IX coordinators, campus legal counsel, etc. Participants were asked to "Please indicate whether you contacted or used any of these university offered

resources regarding any unwanted sexual experiences occurring during college." Responses were coded as 0 = "none used" and 1= "yes" if one or more resources were used.

Participants were also asked if they used any off campus or community resources following their sexual assault during college. The responses were coded as 1= "yes" and 0 = "no" for statistical analyses.

Mental health inventory 18 (MHI-18). The MHI-18 was used to assess overall mental health of the participants. The 18-item instrument has a possible range of scores 18 to 108 (total instrument) with higher scores demonstrating a more positive overall mental health. The tool has two subscales. The psychological distress subscale assesses the concepts of *anxiety* (5 items), *depression* (4 items), and *behavioral/emotional control* (4 items). Psychological well-being measures the concepts of *general positive affect* (4 items) and *emotional ties* (1 item). Each item asks the respondent about a feeling (such as "feeling depressed") during the previous 4-weeks; then, the women were asked to report the duration of that feeling on a six-point scale ranging from 1 = "none of the time" to 6 = "all of the time." The MHI-18 distress subscale is reverse coded so that higher scores indicate more psychological distress. The MHI-18 well-being subscale has a possible range of scores from 5 to 30 with higher scores indicating more psychological well-being. The MHI has demonstrated good reliability for the total scale (Cronbach's alpha = .93), well-being subscale (Cronbach's alpha = .81), and distress subscale (Cronbach's alpha = .92) in the current sample.

Statistical Analysis Plan

This study described the characteristics of college women who used campus survivor resources, examined correlates of campus resource use, and examined correlates and predictors of mental health outcomes in a sample of women who were sexually assaulted during college. Specifically, the goal was to examine whether use of university-affiliated survivor resources was associated with decreased psychological distress for survivors. The survey data were downloaded from Qualtrics to SPSS v.25. Any participant who scored a zero on the SES-SFV (0 = no sexual assault) or who was missing all items on the MHI-18, SES-SFV, or all three subscales of the RAQ were excluded from the analyses. No other variables had greater than 3% of data missing. The mean was substituted for missing continuous items and the mode was substituted for missing categorical items. Descriptive statistics were used to describe the demographic characteristics of the sample, sexual assault experiences, and mental health of the participants. Means and standard deviations were calculated for continuous variables and frequencies for categorical variables. Chi-square tests (categorical variables) and t-tests (continuous variables) were conducted to examine differences between the two universities on the demographic variables (age, ethnicity, and sexual orientation), resource use, and outcome variables (MHI-18 scores).

Correlates of campus resource use were examined with Chi-Square and Pearson's correlation tests. Several variables were recoded for the bivariate correlations: sexual orientation (1= heterosexual, 0 = all other sexual identities), ethnicity (1 = white, 0 =

other ethnicities), history of a sexual assault prior to college (1 = yes, 0 = no), use of campus resources (1 = yes, 0 = no), and use of community resources (1 = yes, 0 = no). Strengths and directions of relationships between study variables and mental health outcomes were examined by performing point biserial tests for dichotomous categorical or Pearson's correlation for continuous variables.

Sequential multiple regression was used to describe the incremental variance in the outcome variable of mental health that was explained by the independent variables. Demographic and independent variables that were significantly correlated with any mental health outcomes were entered into regression models to identify significant predictors of each of the dependent variables (MHI-18 total score, MHI well-being subscale, MHI distress subscale). To assess for multi-collinearity, all variance inflation factor values in the model were assessed to ensure they were below 10.0.

In the first step of the regression models, the variable that has not been examined in previous studies, campus resource use, was entered. In the second step, demographic variables significantly correlated with mental health outcomes were added into the models. In the final step, assault-related independent variables that had significant correlations with mental health outcomes were added to the models. Statistical significance was set at a value of $p < 0.05$ for all analyses in this study.

Results

No significant differences were noted between the two universities for MHI-18 scores, sexual assault severity, history of a sexual assault prior to entering college, use of

campus resources, or use of community resources. A significant difference between universities was noted for the mean age [university 1, n = 326, mean age = 20.10, SD = 1.34; university 2, n = 36, mean age = 21.22, SD = 1.61; t = -4.679, degrees of freedom (df) 360, p < .001]. Women at university 1 were more likely to be white (81.0%) than at university 2 (58.3%) (X^2 = 9.93, df 1, p = .002) and more likely to be quite a bit or very intoxicated (48.2%) at the time of the assault than women at university 2 (30.6%) (X^2 = 8.80, df 1, p = .012). The sample size from university 2 was small and statistical tests may be underpowered to determine significant differences between the universities.

Table 4. Sample characteristics

Characteristic	All Participants (n = 362) n (%)	Used Campus Resources (n = 98) n (%)	Did not Use Campus Resources (n = 264) n (%)
Ethnicity			
White	287 (79.3)	78 (79.6)	209 (79.1)
Black	13 (3.6)	2 (2.0)	11 (4.2)
Hispanic or Latino	17 (4.7)	5 (5.1)	12 (4.5)
Other or Multi-Ethnic	45 (12.4)	13 (13.2)	32 (12.2)
Sexual Orientation			
Heterosexual	295 (81.5)	78 (79.6)	217 (82.2)
Bisexual	49 (13.5)	16 (16.3)	33 (12.5)
Gay or Lesbian	6 (1.7)	2 (2.0)	4 (1.5)
Other or Prefer Not to Say	12 (3.3)	2 (2.0)	10 (3.3)
Year in School			
1st year undergraduate	52 (14.4)	11 (11.5)	41 (15.5)
2nd year undergraduate	74 (20.4)	21 (21.9)	53 (20.1)

3rd year undergraduate	87 (24.0)	24 (25.0)	63 (23.9)
4th year undergraduate	126 (34.8)	34 (35.4)	90 (34.1)
5th year or more undergraduate	23 (6.4)	6 (6.3)	17 (6.4)
Sexual Assault Prior to Entering College	172 (47.5)	56 (57.1)	116 (43.9)

Campus Resource Use

The majority of women (n = 264, 72.9%) did not use campus resources following a sexual assault. No significant relationships were found between campus resource use and age, year in school, sexual orientation, ethnicity, intoxication level at the time of the assault, time passed since the assault, or perceived control over recovery. Women who used university-affiliated resources were more likely to also use off-campus or community resources (54.5%) than not use community resources (19.6%) (X^2 = 37.39, df 1, p < .001, Cramer V = .321). Women who used university resources were more likely to have experienced a sexual assault prior to entering college (32.6%) than to have no history of prior victimization (22.1%) (X^2 = 4.99, df 1, p = .025, Cramer V = .117). Of women who met the SES-SFV definition of rape (n = 210), only 59.0% acknowledged the sexual assault as a rape. Women who acknowledged their sexual assault as a rape were more likely to use campus resources (45.5%) than women who did not acknowledge their assault as a rape (22.1%) (X^2 = 12.08, df 1, p = .001, Cramer V = .240). Table 5 presents the sexual assault experiences of the study respondents.

Campus resource use was significantly, positively correlated with more distress (r = .223, p < .001), characterological self-blame (r = .163, p = .002), and behavioral self-

blame (r = .135, p = .010). Campus resource use was also significantly correlated with more severe sexual assaults (r = .244, p < .001). Use of campus resources was significantly, negatively correlated with overall mental health (r = -.227, p < .001) and psychological well-being (r = -.185, p < .001). These findings suggest that women who used campus resources experienced more severe sexual assaults, more self-blame, and more psychological distress.

Table 5. Sexual assault experiences

Characteristic	All Participants (n = 362) n (%)	Used Campus Resources (n = 98) n (%)	Did not Use Campus Resources (n = 264) n (%)
Most Severe SA Since Entering College			
Sexual Contact	58 (16.0)	5 (5.1)	53 (20.1)
Attempted Coercion	15 (4.1)	2 (2.0)	13 (4.9)
Coercion	24 (6.6)	3 (3.1)	21 (8.0)
Attempted Rape	55 (15.2)	12 (12.2)	43 (16.3)
Rape	210 (58.0)	76 (77.6)	134 (50.8)
Intoxication Level at Time of SA			
Not at all intoxicated	89 (24.6)	22 (22.4)	67 (25.4)
A little	47 (13.0)	15 (15.3)	32 (12.1)
Somewhat	58 (16.0)	14 (14.3)	44 (16.7)
Quite a bit	84 (23.2)	26 (26.5)	58 (22.0)
Very intoxicated	84 (23.2)	21 (21.4)	63 (23.9)
Time Since College SA Occurred			
Past 6 months	124 (34.3)	31 (31.6)	93 (35.2)
6-12 months ago	77 (21.3)	20 (20.4)	57 (21.6)
1-2 years ago	102 (28.2)	29 (29.6)	73 (27.7)

2 or more years ago	59 (16.2)	18 (18.4)	41 (15.5)
Used Off Campus Resources	77 (21.3)	42 (42.9)	35 (13.3)

Note: Sexual Assault (SA)

Relationships with Mental Health Outcomes

The bivariate relationships between demographic variables, independent variables and mental health outcomes are presented in Table 6. Having more self-blame, experiencing an assault prior to entering college, and using community resources were associated with poorer mental health outcomes and more psychological distress. Having more perceived control over the recovery process, being more intoxicated at the time of the assault, having more time passed since the college assault occurred, and identifying as heterosexual were associated with more positive mental health outcomes.

To examine the unique contribution of campus resource use in explaining mental health of women who have been sexually assaulted while in college, sequential multiple regression analyses were performed. All models were significant: overall mental health [$R^2 = .336$, $R^2_{adj} = .315$, $F(11, 350) = 16.09$, $p < .001$], well-being [$R^2 = .283$, $R^2_{adj} = .260$, $F(11, 350) = 12.55$, $p < .001$], and distress [$R^2 = .310$, $R^2_{adj} = .288$, $F(11, 350) = 14.30$, $p < .001$]. Campus resource use remained a significant predictor in all steps of all three models: overall mental health, well-being, and distress. Using campus resources was significantly associated with poorer overall mental health, less well-being, and more psychological distress. Table 7 provides a summary of the regression models for overall mental health, psychological well-being and psychological distress.

In the final model, better overall mental health was associated with not using campus resources, identifying as heterosexual, being more intoxicated at the time of the assault, having less characterological self-blame, and perceiving more control over recovery. Psychological well-being was associated with not using campus resources, identifying as heterosexual, describing ethnicity as white, being more intoxicated at the time of the assault, having more time passed since assault occurred, experiencing less characterological self-blame, and perceiving more control over recovery. More psychological distress was associated with using campus resources, not identifying as heterosexual, experiencing more characterological self-blame, and perceiving less control over the recovery process.

Table 6. Correlations between study variables and mental health outcomes

	MHI Total	*p*	MHI Well-being	*p*	MHI Distress	*p*
MHI Total	-		.820	<.001	-.979	<.001
MHI Well-being	.820	<.001	-		-.687	<.001
MHI Distress	-.979	<.001	-.687	<.001	-	
RAQ-CSB	-.432	<.001	-.323	<.001	.434	<.001
RAQ-BSB	-.305	<.001	-.226	<.001	.308	<.001
RAQ-Control	.265	<.001	.265	<.001	-.243	<.001
SA Severity	-.091	.084	-.008	.875	.113	.032
Intoxication Level	.109	.039	.117	.026	- .096	.067

Time Passed	.116	.027	.169	.001	-.088	.095
Age	.020	.707	.016	.763	-.020	.711
Year in School	.059	.263	.055	.294	-.055	.294
Campus Resource	-.227	<.001	-.185	<.001	.223	<.001
Community Resource	-.149	.004	-.052	.320	.171	.001
Ethnicity	.098	.061	.116	.028	-.084	.111
Sexual Orientation	.231	<.001	.272	<.001	-.197	<.001
SA Prior to College	-.151	.004	-.171	.001	.130	.013

Note: MHI (Mental Health Inventory), RAQ (Rape Attributions Questionnaire), BSB (Behavioral Self-Blame), CSB (Characterological Self-blame), Control (Perceived Control over Recovery), SA (Sexual Assault). Sexual Orientation: 1 = Heterosexual; Ethnicity: 1 = White.

Table 7. Sequential multiple regression analyses predicting mental health outcomes following a sexual assault in college

		MHI Total *B*	MHI Well-being *B*	MHI Distress *B*
	Variable			
1	Campus Resource Use	-.140**	-.143**	.127**
2	*Demographics*			
	Sexual Orientation	.172**	.208**	-.145**
	Ethnicity	.084	.099*	-.072
	SA Prior to College	-.020	-.053	.007
3	*Assault Factors*			
	SA Severity	.010	.046	.004

Intoxication Level	.116*	.090	-.116*
Time Passed since SA	.049	.099*	-.027
RAQ-CSB	-.329**	-.230**	.336**
RAQ-BSB	-.114*	-.108	.106
RAQ-Control	.210**	.214**	-.191**
Community Resource	-.018	.050	.041
Cumulative R^2	.336**	.283**	.310**
Cumulative $R^2_{adjusted}$	.315**	.260**	.288**

Note: MHI (Mental Health Inventory), RAQ (Rape Attributions Questionnaire), BSB (Behavioral Self-Blame), CSB (Characterological Self-blame), Control (Perceived Control over Recovery), SA (Sexual Assault), ** $p < 0.01$, * $p < .05$. Sexual Orientation: 1 = Heterosexual; Ethnicity: 1 = White. Measures of sexual assault prior to college, campus resource use, and use of community resources are dichotomous (1 = yes). * indicates $p < .05$, ** indicates $p < .01$. The final model is presented.

Discussion

This study examined relationships of campus resource use, demographic characteristics, sexual assault experiences, and mental health in a sample of college women who reported being sexually assaulted during their time at college. This study extends previous research by specifically examining the relationship of using campus resources in the aftermath of a sexual assault and the mental health outcomes of sexual assault survivors. Across all three domains of mental health (overall mental health, psychological well-

being, and psychological distress), campus resource use was a significant predictor of poorer mental health outcomes.

In the current sample, mental health sequelae following college sexual assault may have been due to the trauma itself or may also have been exacerbated by negative experiences with formal services provided by the universities. Research demonstrates that women's experiences with formal resources following a sexual assault may result in *secondary victimization* and worsening of mental health outcomes (Campbell, 2008). Negative responses from formal supports have been found to exacerbate PTSD symptoms in help-seeking women. Women who were the victims of acquaintance rapes and had negative encounters with formal service providers were at a higher risk for psychological distress than women who sought no services at all (Campbell, 2008). In a study of sexual assault survivors' perceptions of support services, positive support was associated with fewer symptoms of PTSD (Elklit & Christiansen, 2013) . In the current study, no specific questions were asked about the reactions of the providers or staff at the campus resources that were used. Perceived helpfulness of resources used in the current study are described in [first author] (in review). Further research with pretest-posttest designs may better inform the understanding of what impact campus resources have on psychological outcomes. Qualitative research may be valuable to enhance understanding of the support encounter not captured by questionnaires.

It is possible that in the current study, the subset of women who sought help from campus resources may have been more distressed from their sexual assault experience

rather than from the use of campus resources. A meta-analysis by Dworkin, et al. (2017) found evidence that sexual assault severity was associated with higher severity of psychopathology (Dworkin et al., 2017). Participants in the current study were more likely to seek help from campus resources if they had experienced a completed rape. In a campus climate survey, sexual assault survivors who described the victimization as upsetting or very upsetting were more likely to have experienced a rape (79%) than a sexual assault excluding rape (48%) (Krebs et al., 2016). In a study examining female sexual assault survivors, depression symptoms and prior mental health treatment significantly predicted resource use (Price, Davidson, Ruggiero, Acierno, & Resnick, 2014). These findings suggest that women with more depression symptoms and women who have used services for prior mental health problems were more likely to use seek services after a sexual assault. In the current study, we did not assess the perceived distress of the assault experience, mental health diagnoses, and mental health treatment prior to the assault. Future research including these phenomena would provide a more comprehensive picture of the mental health of the participants.

In our study, the disclosure of the sexual assault experience to informal resources was not examined. Dworkin and Allen (2018) found that survivors stopped seeking help after a sexual assault when they felt their needs were met. Most women typically first disclose to a close friend or family member (Sabina & Ho, 2014). In the current study, it may be possible that if psychosocial needs were met by informal sources, the participants may not have sought help at formal campus resources. Therefore, women who sought

campus resources may have been experiencing more distress or had no informal support with whom to disclose. Campus resource use was also associated with help-seeking through community resources. Community resource use was associated with higher levels of distress and worse overall mental health in bivariate correlations; but was not found to be a significant predictor of any of the mental health outcomes. The current study did not examine the sequence of events to determine if campus or community resources were sought first or if needs were met by informal sources or through community resources. The finding that campus resource use was a significant predictor of more psychological distress in the current sample may reflect a higher level of distress in the participants prior to campus resource use. Future research should be conducted with longitudinal designs to better understand the time sequence of relationships between mental health and help-seeking using campus resources. Future studies may wish to include more specific measures of timing after the assault and extent to which campus resources were used.

The current study's findings of more self-blame associated with more distress and more perceived control over recovery associated with more psychological well-being supports findings in previous research (Frazier et al., 2011, 2004; Peter-Hagene & Ullman, 2018). Both more characterological self-blame and less perceived control over recovery were significant predictors of poorer overall mental health, more psychological distress, and less psychological well-being. Campus resource use was also significantly associated with higher levels of both behavioral and characterological self-blame; but not

associated with perceived control over recovery. If self-blame is associated with both more distress and campus resource use, then women who sought help through campus resources may have been more distressed before seeking help. Further longitudinal research is needed to determine the sequencing of events of self-blame, distress, and resource use.

A qualitative study of college students who had experienced a sexual assault introduced the concept of covert help-seeking (DeLoveh & Cattaneo, 2017). Participants described accessing formal services after a sexual assault without disclosing that an assault had occurred. In the current study, help-seeking fell into dichotomous categories: *yes* or *no*. Further research should include a question examining whether the assault experience was disclosed to the formal service provider at the time of service. It is possible that participants in the current study who answered *yes* to using formal resources after the assault did not disclose their assault experience; and therefore, did not receive the help needed to effectively facilitate the recovery process.

Implications for Practice

Women who sought out sexual assault survivor resources were more likely to have experienced a sexual assault prior to entering college and having experienced a sexual assault prior to entering college was associated with more distress. These findings emphasize the importance of screening all women for sexual assault victimization and mental health in college health centers. Screening measures may help identify those who have experienced a prior victimization and may be at risk of revictimization. Women in

the current study who used on-campus resources were also more likely to use off-campus resources. Providers and staff working in survivor resources on college campuses must be aware of the community resources available in order to facilitate appropriate and coordinated referrals for survivors. Reputation of campus services and the overall campus climate on sexual assault may play a role in survivors' decisions to seek resources. Collaboration between administrators, health providers, and survivors is needed to ensure the resources offered are effective and tailored to meet the needs of college students who experience a sexual assault.

Limitations

The current study consisted of a generally homogenous sample of college women. The results may not be generalizable to other populations with diversity of age range, ethnicity, sexual orientation, or education. This study was limited to female survivors and may not be applicable to the experiences of male college students who are sexually assaulted. The majority of participants were from one university; and therefore, may not represent the population of sexual assault survivors or campus resources available at other universities. No assessment was made of participants' perceptions of the campus climate regarding sexual assault or if university-affiliated resources had a negative reputation. This study included retrospective, self-report that may be subject to recall bias. The cross-sectional nature of this study precluded making causal arguments and determining the sequence of events. It is unclear whether the psychological distress was related to campus resource use or to the sexual assault trauma itself. It is also unclear

how quickly after the assault occurred, how often, or to what extent participants used the campus resources. The scope of this study did not include other variables that may have had an effect on mental health outcomes: disclosure experiences with informal resources, mental health diagnoses prior to sexual assault, or perceived distress of the assault experience.

Conclusion

Psychological distress and formal help-seeking are complex processes shaped by individual characteristics. The current study demonstrated that sexual assault survivor's use of campus resources was significantly associated with more psychological distress even after controlling for other variables. The cross-sectional nature of this study limited our ability to explore the reason for this. It may be that campus resources were not helpful or effective in supporting survivors in the recovery process. It may be that women in the current study who sought resources were more distressed from the assault experience and had more complex needs in the recovery process. Many college women forego the use of any formal services following a sexual assault. Given the high rate of sexual assaults on college campuses and known negative psychological impact of sexual assault, it is imperative that campuses offer resources and programs that are effective in meeting the needs of survivors.

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CHAPTER FIVE

This chapter includes a summary of the results of research questions 3, 4 and 5. A manuscript with the complete results and discussion follows.

Summary of the Results

Research Question 3: Which university-affiliated survivor resources are used by female survivors of sexual assault?

The most often used campus resource was mental health counseling (n = 66, 67.3%) followed by the university health center (n = 26, 26.5%) and the survivor/victim's advocate (n = 14, 14.3%). For the item assessing additional "other" university resources participants (n = 4) used, two participants indicated contacting Title IX, one participant contacted campus police, and one participant did not indicate which resource was used.

Research Question 4: What is the perceived helpfulness of university-affiliated survivor resources?

The perceived helpfulness of the resources ranged from 2.89 to 4.50 (5 = extremely helpful). The highest perceived helpfulness scores were for the campus survivor/victim's advocate (M = 4.50, SD = .522), peer support groups (M = 4.44, SD = .527), peer counseling (M = 4.08, SD = .954), the student health center (M = 3.67, SD = 1.47), and mental health counseling (M = 3.67, SD = 1.34). The lowest score for

perceived helpfulness was for the campus rape crisis team (M = 2.89, SD = 1.36). For the item measuring overall perceived helpfulness of resources, less than half of participants (44.6%, n = 42) indicated that resources were overall helpful.

Research Question 5: Are there significant differences in mental health outcomes between survivors who used university-affiliated resources and rated them as helpful and survivors who used university-affiliated resources and rated them as unhelpful?

There was a statistically significant difference in MHI-18 total scores between women who perceived university-affiliated resources as helpful (*M* = 66.07, SD = 13.78) and women who perceived them as unhelpful (M = 59.79, SD 14.27) (t = 2.16, p = .034). There was a statistically significant difference in MHI well-being subscale scores between women who perceived resources as helpful (M = 18.93, SD 3.84) and women who perceived them as unhelpful (M = 17.23, SD = 3.95) (t = 2.10, p = .039). Results suggest that women who perceived campus resources as helpful had better overall mental health and higher reported well-being. There was not a statistically significant difference in MHI distress subscale scores between women who perceived campus resources as helpful (M = 43.86, SD 10.92) and women who perceived resources as unhelpful (M = 48.44, SD = 11.41, t = -1.97, p = .052).

Manuscript

Sexual Assault Survivors' Perceived Helpfulness of University-Affiliated Resources

Abstract

Objective: Few studies have examined students' perceptions of university-affiliated sexual assault survivor resources. This study aims to add to extant research by examining sexual assault survivor's use and perceived helpfulness of campus resources.

Participants: Participants were women from two public universities who experienced a sexual assault during college and used university resources. **Methods:** This cross-sectional study collected data in an online anonymous survey in December 2018.

Results: Participants who perceived university-affiliated survivor resources as helpful had significantly better mental health outcomes than women who perceived the resources as unhelpful. The most often used resources were mental health counseling (60.6%) and university health centers (24%). The highest rated resources were survivor's advocates, peer counseling, and peer support groups. **Conclusions:** University sexual assault resources that are perceived as helpful may improve the mental health of female survivors of sexual assault.

Keywords: university resources, sexual assault, help-seeking, mental health

Introduction

Sexual assault is a major public health concern with many negative consequences. Women aged 18 through 24 are more likely to experience a sexual assault than any other

age group of women.[1] Approximately 21% of college women experience a sexual assault during their college years.[1] The impact of sexual assault on a survivor's mental health is well documented. Findings from a recent meta-analysis on psychopathology of sexual assault victimization suggest that people who have been sexually assaulted have an increased risk for psychopathology [depression, anxiety, post-traumatic distress syndrome (PTSD), substance use, suicidality, and disordered eating].[2] In addition to affecting mental health, women who have been sexually assaulted during college report a negative impact on academic performance including a significant drop in grade point average and taking longer to complete degrees.[3] Sexual assault during college does not just exhibit immediate consequences but also has implications for a multitude of long-term mental health, physical health, social, and financial consequences for the survivors that extend well beyond the college years.[4]

Most university campuses provide formal resources for survivors of sexual assault (e.g., student health services, mental health counseling, survivor's advocates, peer counseling, etc.). However, studies consistently demonstrate that the overall rates of campus survivor resource utilization remains low.[5,6] In a 2016 study of campus resources and mental health of undergraduate students from 28 universities, campuses with more sexual violence resources had lower rates of anxiety, panic attacks, and PTSD reported by sexual assault survivors.[7] This study did not assess if participants had used any of the survivor resources available. Few studies have examined students' perceptions of university-affiliated survivor resources. The current study aims to add to the extant

research by examining sexual assault survivor's use and perceived helpfulness of survivor resources provided by universities.

Resource use and mental health

Because of the risk of mental health problems resulting after a sexual assault, it may be advantageous for women to seek help and utilize available resources. In a systematic review assessing the effectiveness of mental health interventions for adult female survivors of sexual assault, findings suggested that several treatments may improve mental health post-assault: cognitive-behavioral interventions, exposure interventions, eye movement desensitization, or reprocessing interventions.[8] In the review, only nine articles were identified that met the search criteria (adult female survivors, comparison group, evaluating effectiveness of intervention on mental health). Considering the severity and frequency of mental health problems following an assault, this suggests a relatively small body of evidence exists that evaluates mental health outcomes following interventions.[8] No studies have examined whether the use of a university's survivor resources has an effect on mental health outcomes of college women who have been sexually assaulted.[6]

Barriers and facilitators of university-affiliated resource use

Women cite multiple reasons for not disclosing a sexual assault to formal and informal sources after a sexual assault. Among the top reasons are feelings of shame, self-blame, guilt and embarrassment; not wanting friends and family to find out; and thinking the victimization was not serious enough to report.[5,9,10] Women who experienced

unwanted sexual contact were less likely to seek services than women who experienced completed rape (48% vs. 70%).[9] Victims who were intoxicated at the time of the rape were less likely to seek health services than women who were victims of rapes involving force or a weapon.[11] College women have reported barriers to seeking services from an on-campus facility, including having only daytime hours of operation, requiring scheduled appointments, having limited emergency services, and having previous negative experiences with providers.[12]

Several factors increased the likelihood of formal resource use after sexual victimization. The most common reason that female college students used health services is because they felt they experienced a crime or defined the experience as a rape. [5,13] Survivors were more likely to seek formal services if they received positive reactions or encouragement from informal support persons, such as friends or family.[13,14] Women who experienced greater distress symptoms after an assault were also more likely to seek formal services.[5] No studies examined factors such as quality of or perceived helpfulness of services, which may have an effect on facilitators and barriers of service utilization.

Types of resources used by survivors

Representatives from 45 universities in 21 states were interviewed to assess which services were provided for students who experienced dating violence and sexual assault.[15] These university representatives reported offering on-campus counseling (80%), on-campus police services (69%), crisis centers (57%), survivor advocacy (53%), and on-campus medical assistance (51%). Services that were provided at less than 40% of

universities included legal assistance, academic assistance, referral to community services, off-campus police services, on-campus housing service, and a crisis hotline.[15] A systematic review of 22 research articles on college health service utilization by sexual violence victims reported rates of campus resource use between 5 – 48%.[5] The most common services used were campus health centers, mental health counseling, and campus rape crisis centers.[5,9,16]

Students' perceptions of helpfulness of resources

Few studies have examined students' perceptions of campus resources for sexual assault survivors. In a sample of undergraduate women (N = 37), participants recommended universities could improve the helpfulness of on-campus sexual assault survivor resources if they increased visibility of survivor resources, took measures to inform students of resources available, promoted a campus community of sexual violence prevention, and collaborated with survivor resources outside of the campus.[12] In another study examining perceived helpfulness of campus resources, participants (N = 475) rated the student health women's center as most helpful (M = 4.45, 1-5 Likert scale, 5 = most helpful).[10] Other campus resources assessed in this study that were also rated favorably included the university counseling center (M = 4.31), office for violence prevention (M = 4.35), student health center's medical clinic (M = 4.17), and campus police (M = 4.07). The resource that received the lowest rating of perceived helpfulness was residential life staff (M = 3.80). Neither of the above studies assessed whether participants had ever

experienced a sexual assault, nor whether they had ever used any of the campus survivor resources.[10,12]

Two qualitative studies have evaluated survivors' perceptions of campus resources.[13,17] Participants (n = 12) reported that it would have been helpful to have contacted rape response services sooner, refrained from self-blame, acknowledged the assault as a rape, and had a greater understanding of both the legal process following an assault and the services available to them.[13] Survivors (n = 27) also reported the need for more staff education on trauma-informed care, increased hours of availability for access to care, and diversifying the format for communication to include texting and a chatting forums that allowed for anonymity.[17] No assessment of perceived helpfulness of the university-affiliated resources that were used by the survivors was completed in these studies. In a quantitative study of female undergraduate students (N = 247), participants were asked how confident they felt their university was at providing crisis resources to students who experienced a sexual assault.[18] Victims reported significantly less confidence in university resources than non-victims ($p < 0.05$). This study did not assess if any of the victims had used any of the survivor resources available on the campus.

In the 2007 Campus Sexual Assault Study, of the undergraduate women (n = 657) who reported forced or incapacitated completed rape, only 11 contacted the crisis center or victim services program affiliated with the university; 15 victims sought medical services from the campus medical facility, and 14 saw a therapist affiliated with the university.[19] The majority of survivors who contacted a campus or community victim's

services program, crisis center, or health care center were overall satisfied with the way their reporting of the rape was managed; and only a few participants regretted reporting the incident to these types of services. In this study, the overall satisfaction of services was reported on the combined scores of both on- and off-campus services.[19]

Relatively few studies have examined the use of university-affiliated health services by college students following a sexual assault. Much of the existing research has focused on students' awareness of resources or the facilitators and barriers to seeking help from university-affiliated resources.[6] College women report awareness of resources and presume to use these resources in hypothetical scenarios of sexual victimization.[16] However, in reality, resource use by survivors remains low on college campuses. Possible reasons for lack of resource use may be that the university-affiliated resources offered are perceived as not appropriate, unhelpful, or not effective in the recovery from a sexual assault.[6] Few studies have examined perceived helpfulness or satisfaction with resources and not all of the researchers asked if participants had, in fact, used the resources offered by the university. The purpose of this study was to (1) examine the use of university-affiliated resources used by sexual assault survivors; (2) examine survivors' perceived helpfulness of the resources used; (3) assess for relationships between perceived helpfulness and other study variables (demographics, sexual assault characteristics, mental health, self-blame, perceived control over recovery, and perceived helpfulness among female survivors of sexual assault who used resources); and (4) examine for

differences in mental health, self-blame, and perceived control between women who perceived resources as helpful and those who perceived resources as not helpful.

Methods

Participants

The eligible participants for this study were 18 to 24-year-old undergraduate women who had been sexually assaulted during their time at college and had used university-affiliated survivor resources. The sample for this study was a subset of participants from a larger study (n = 362) examining the mental health of women who experienced a sexual assault during college. The respondents who indicated they had used university-affiliated survivor resources (n = 98) were young women (mean age = 20.37, SD = 1.40) from two public four-year universities in a Mid-Atlantic state. The majority of the respondents (90.9%) came from one of the universities.

Procedures

The data were collected in November and December of 2018. The sample was recruited from two public universities with similar university-affiliated sexual assault survivor resources. For the first university, an invitation to participate was sent to all female students through the university's student email listserv. For the second university, an email invitation was sent through departmental and student organization listservs. The email contained a link to the informed consent and a Qualtrics survey that remained open for 30 days. The survey data was downloaded from the Qualtrics server into a Statistical

Package for the Social Sciences (SPSS v.25) compatible file for analysis. The Institutional Review Boards of both universities approved all procedures.

Measures

Demographics

Demographic data were collected, including current age, ethnicity, year in school, gender identity, and sexual orientation. For statistical analyses, ethnicity (1 = white = 1, 0 = all other ethnicities) and sexual orientation (1 = heterosexual, 0 = all other orientations) were coded as dichotomous variables. See Table 1 for the demographic characteristics of the sample.

Sexual Assault

Sexual assault severity was measured using the Sexual Experiences Survey – Short Form Victimization (SES-SFV).[20] The SES-SFV assesses victimization of unwanted sexual experiences. For this study, the participant's highest level of severity of assault was recorded for correlational and group comparison analyses (0 = non-victim, 1= sexual contact, 2 = attempted coercion, 3 = coercion, 4 = attempted rape, and 5 = rape).[21] For Chi-square statistical analyses, sexual assault during college was recoded to two categories: "rape" and "all other forms of sexual assault." To assess for sexual assault experiences since entering college, the wording on the SES-SFV was changed from "How many times in the past 12 months…?" to "since entering college have you experienced…?"

Additional questions were asked about the amount of time passed since the assault, intoxication level at the time of the assault, and history of sexual victimization

prior to entering college. For Chi-square statistical analyses, intoxication level was recoded as dichotomous variable: 'not at all' and 'any intoxication.'

Mental Health

The Mental Health Inventory 18 (MHI-18) assessed overall mental health in the past four weeks.[22] The instrument consists of two subscales rated on a 6-point Likert scale (1 = none of the time, 6 = all of the time): psychological distress (13 items) and psychological well-being (5 items). The possible range of scores for the full scale is 18 to 108 with the higher MHI-18 score demonstrating more positive overall mental health. When calculating the score for the distress subscale, the items were reverse coded. Once recoded, a higher score endorsed greater distress with the possible range of scores is 13 – 78. For the subscale of well-being, the possible range of scores was 5 – 30 with higher scores endorsing greater well-being. In the current study (n = 98), the distress (Cronbach's alpha = .91), well-being (Cronbach's alpha = .81), and total mental health (Cronbach's alpha = .92) scales demonstrated good levels of internal reliability.

Resource Use

Use of any resources not affiliated with the college campus was assessed by asking participants, "Did you use any off-campus or community resources after any of the unwanted sexual experiences occurring during college?" (1 = Yes, 0 = No). For the purposes of this study, university-affiliated survivor resources were defined as resources that provided mental and physical health support and services after a sexual assault and were affiliated with the university. These resources included campus counseling centers,

rape crisis centers, university health centers, 24-hour hotlines, survivor/victim's advocates, peer support groups, and peer counseling. Participants were also provided space to list "other" university-affiliated resources they may have used. The list of resources was developed by the researchers from the available resources listed on the websites of the universities included in the study. Participants were first asked if they had used any of the resources listed (Yes/No). Participants who indicated they had used any of the listed resources were directed to a question to rate their perceived helpfulness of each of the resources used. Perceived helpfulness was measured on a 5-point Likert scale by asking to what extent the participant agreed (5 = strongly agree) with the statement, "This resource helped me after the unwanted sexual experience." A second item assessed overall perceived helpfulness "Overall, did you find the university's resources/services helpful?" (1 = Yes, 0 = No).

Rape Attributions Questionnaire (RAQ)

The RAQ is a self-report measure of attributions made by survivors of sexual assault about why the assault happened.[23,24] Each item asks the participant about a feeling they may have had in the past month. Three subscales of the full scale were used in this study: behavioral self-blame (RAQ-BSB) (e.g. "I should have resisted more."), characterological self-blame (RAQ-CSB) (e.g. "I am just the victim type."), and perceived control over recovery (RAQ-Control) (e.g. "I am confident that I can get over this if I work at it."). Each subscale has five items rated on a 5-point Likert scale resulting in a score ranging from 5 – 25. Higher scores on each subscale indicated greater

endorsement of the concept. Means scores of each subscale were used for analysis in this study. The subscales of the RAQ were found to be reliable measures of each concept in the current sample: behavioral self-blame (Cronbach's alpha = .84), characterological self-blame (Cronbach's alpha = .73), and perceived control over recovery (Cronbach's alpha = .75).

Statistical Analysis

The data were examined for outliers, patterns in missing data and violations of assumptions of statistical tests. Differences in demographics and outcome measures between universities were evaluated by examining a series of Chi Square for categorical variables and t-tests for continuous variables. Cases missing all items on the MHI-18 (outcome variable) and SES-SFV (sexual assault experiences) were excluded from the study. The independent variables in this study were demographic data, sexual assault related factors, community resource use, and perceived helpfulness of resources. The dependent variables in this study were mental health outcomes, self-blame, and perceived control over recovery.

Use of university-affiliated resources was summarized with frequencies and percentile estimates and perceived helpfulness was summarized with means and standard deviations for each resource. Chi-square tests were performed to examine associations between perceived helpfulness and demographic characteristics and sexual assault experiences. A series of t-tests were conducted to examine for differences between participants who perceived university-affiliated resources as helpful and those who

perceived them as not helpful for age; MHI total score; MHI well-being subscale; MHI distress subscale; and RAQ subscales of characterological self-blame, behavioral self-blame, and perceived control over recovery. A significance level of 0.05 was set for all analyses.

Results

Table 8. Demographic characteristics

Characteristic (n = 98)	n (%)
Ethnicity	
White	78 (79.6)
Black	2 (2.0)
Hispanic or Latino	5 (5.1)
Other or Multi-Ethnic	13 (13.2)
Sexual Orientation	
Heterosexual	78 (79.6)
Bisexual	16 (16.3)
Gay or Lesbian	2 (2.0)
Other or Prefer Not to Say	2 (2.0)
Sexual Assault Prior to Entering College	56 (57.1)
Most Severe Sexual Assault since Entering College	
Sexual Contact	5 (5.1)
Attempted Coercion	2 (2.0)
Coercion	3 (3.1)
Attempted Rape	12 (12.2)
Rape	76 (77.6)
Intoxication Level at Time of Sexual Assault	
Not at all intoxicated	22 (22.4)
A little	15 (15.3)
Somewhat	14 (14.3)
Quite a bit	26 (26.5)

Very intoxicated	21 (21.4)
Length of Time Since College Sexual Assault Occurred	
Past 6 months	31 (31.6)
6-12 months ago	20 (20.4)
1-2 years ago	29 (29.6)
2 or more years ago	18 (18.4)
Off Campus Resource Use	42 (42.9)
Perceived University-Affiliated Resources as Helpful (n = 94)	42 (44.6)

There were no significant differences between the universities for age, sexual orientation, ethnicity, MHI-18 Total, MHI-18 well-being subscale, MHI-18 distress subscale, sexual assault severity, history of sexual assault prior to college, use of community resources, or overall perceived helpfulness of university-affiliated resources. A significant difference was noted for intoxication level at the time of the assault ($X^2 = 17.43$, df 1, $p < .001$) with more participants from University 1 (n = 74, 83.1%) than University 2 (n = 2, 22.2%) being intoxicated at the time of the assault. Due to the small sample size, analyses to examine differences between universities may be underpowered to detect statistical significance.

Prevalence and types of campus resources use

The most often used campus resource was mental health counseling (n = 66, 67.3%) followed by the university health center (n = 26, 26.5%) and the survivor/victim's advocate (n = 14, 14.3%). The perceived helpfulness of the resources ranged from 2.89 to 4.50. The highest perceived helpfulness scores were for the campus survivor/victim's

advocate (M = 4.50, SD = .522), peer support groups (M = 4.44, SD = .527), peer counseling (M = 4.08, SD = .954), the student health center (M = 3.67, SD = 1.47), and mental health counseling (M = 3.67, SD = 1.34). The lowest score for perceived helpfulness was for the campus rape crisis team (M = 2.89, SD = 1.36). For the item measuring overall perceived helpfulness of resources, less than half of participants (44.6%, n = 42) reported that resources were overall helpful. For the item assessing additional "other" university resources that some participants (n = 4) used, two participants indicated contacting Title IX, one participant contacted campus police, and one participant did not indicate which resource was used. See Table 9 for prevalence of resources used and ratings of helpfulness.

Table 9. Resource use and perceived helpfulness

University-Affiliated Survivor Resource (n = 98)	Used Resource n (%)	Perceived Helpfulness Mean (SD)
University Health Center	26 (26.5)	3.67 (1.47)
Mental Health Counseling	66 (67.3)	3.67 (1.34)
Sexual Assault Crisis Team	11 (11.2)	2.89 (1.36)
Sexual Assault Crisis Hotline	9 (9.2)	3.43 (1.13)
Survivor/Victim's Advocate	14 (14.3)	4.50 (0.52)
Peer Counseling	12 (12.2)	4.08 (0.95)
Peer Support Group	13 (13.3)	4.44 (0.53)

Perceived helpfulness

In the Chi-square analyses, no significant relationships were found between perceived helpfulness of university-affiliated resources and sexual orientation, sexual assault severity, intoxication level, time passed since college assault occurred, and history of sexual assault prior to college. Women who identified with an ethnicity other than white were more significantly likely to perceive university resources as not helpful (n = 16, 30.8%) than helpful (n = 5, 11.9%) (X^2 = 4.77, df 1, p = .029). Women who used community or off-campus resources were more likely to perceive university-affiliated resources as not helpful (51.9%) than helpful (31.0%) (X^2 = 4.18, df 1, p = .041). There was a statistically significant difference in MHI-18 total scores between women who perceived university-affiliated resources as helpful (M = 66.07, SD = 13.78) and women who perceived them as unhelpful (M = 59.79, SD 14.27) (t = 2.16, p = .034). There was a statistically significant difference in MHI well-being subscale scores between women who perceived resources as helpful (M = 18.93, SD 3.84) and women who perceived them as unhelpful (M = 17.23, SD = 3.95) (t = 2.10, p = .039). Results suggest that women who perceived campus resources as helpful had better overall mental health and higher reported well-being. There was not a statistically significant difference in MHI distress subscale scores between women who perceived campus resources as helpful (M = 43.86, SD 10.92) and women who perceived resources as unhelpful (M = 48.44, SD = 11.41, t = -1.97, p = .052). Table 10 illustrates means of mental health scales and t-test results.

Table 10. Results of t-test and descriptive statistics of study measures by perceived helpfulness

	Helpful (n = 42)	Not Helpful (n = 52)			
	M (SD)	M (SD)	t	p	95% CI for Mean Difference
MHI Total	66.07 (13.78)	59.79 (14.27)	2.16	.034	.49, 12.07
Well-being	18.93 (3.84)	17.23 (3.95)	2.10	.039	.09, 3.31
Distress	43.86 (10.92)	48.44 (11.51)	-1.97	.052	-9.22, .05
RAQ CSB	11.93 (4.63)	12.37 (4.36)	-.47	.640	-2.28, 1.41
RAQ BSB	16.17 (5.61)	15.40 (5.12)	.69	.493	-1.44, 2.97
RAQ Control	19.07 (3.72)	17.89 (4.16)	1.43	.156	-.46, 2.81
Age	20.14 (1.49)	20.54 (1.34)	-1.36	.179	-.975, .192

Discussion

The purpose of this study was to examine women's experiences with campus sexual assault survivor resources and to identify what factors may be related to women perceiving the resources as helpful. Findings suggested that women who perceived university-affiliated survivor resources as helpful had better mental health outcomes than women who perceived the resources as unhelpful. The majority of survivors in this study sought mental health counseling. The higher use of mental health counseling may reflect the considerable number of women who experienced mental health consequences after the sexual assault.[2] The perceived helpfulness of mental health counseling for sexual assault survivors was consistent with previous research.[10,25,26]

Many women in our study found university-affiliated resources to be overall not helpful. Although most universities offer survivor resources, a study of representatives from 45 public, four-year universities, found that only 62% of universities indicated having specialized training for providers of sexual assault services including mental health counselors (47%) and medical staff (33%).[15] Health care providers, counselors, and staff in university health settings should be educated on trauma informed care of individuals who experience a sexual assault. In addition to using campus resources, 42.9% of the survivors also sought off-campus or community-based resources. University staff should be encouraged to develop relationships with and referral systems for off-campus resources. Additionally, campus facilities should implement screening questions to address risk factors. The majority of survivors in our study experienced a sexual assault prior to entering college and a majority were under the influence of alcohol at the time of the assault. Screening for sexual assault experiences, alcohol use, and psychological distress may help providers identify women who have experienced a sexual assault in college and better facilitate timely and appropriate referrals.

It is possible that evaluations of the resources were affected by the distress associated with the assault itself. The women who experienced more distress might have perceived the resources as less helpful than someone who had experienced less distress. A large percentage of women in our study experienced a rape (77.6%) compared to a campus climate study of nine universities where researchers found that 31.6% of the sexual assaults that occurred in college women were completed rapes.[27] Sexual assault

severity and use of force have demonstrated a deleterious effect on mental health in previous studies.[2] In this study, sexual assault related factors (severity, intoxication level, and amount of time passed) demonstrated no significant relationships with perceived helpfulness, overall mental health, distress, or well-being. These non-significant findings contribute to the research by suggesting that though sexual assault characteristics may cause distress, they may not influence women's perceptions of campus survivor resources.

Participants in this study who found university-affiliated resources to be helpful had better overall mental health and a greater sense of well-being than women who found resources to be unhelpful. Alternatively, in a study by Starzynski and Ullman, as sexual assault survivors' PTSD symptom severity increased, women were 1.59 times more likely to find mental health professionals helpful.[25] The participants in that study were older (median age = 30), more diverse (less than half were White), and of a lower socioeconomic status (more than half had an annual household income < $20,000) than typical college students. Starzynski and Ullman also found that perceived control over recovery was a significant predictor of sexual assault survivors rating mental health professionals as helpful. In our study, the relationship between perceived control over recovery and perceived helpfulness of resources was not statistically significant.

Survivor's advocates were perceived as the most helpful resource, however, were only used by a small number (n = 14, 14.3%) of participants in this study. Survivor's advocates have demonstrated beneficial outcomes in previous research.[28] Those women

who had the assistance of a survivor advocate were more likely to report the assault to the police, receive comprehensive medical services, and experience less distress. They were also less likely to experience self-blame and be treated negatively by the police or medical personnel.[28] University healthcare providers and staff should promote awareness of and referral to this beneficial and underutilized resource.

Though only used by a few participants, peer counseling and peer support groups were both rated as helpful after a sexual assault experience. Research demonstrates that women were more likely to disclose a sexual assault to a female friend than a formal support provider (healthcare provider, counselor, police, etc.).[6] Female friends often responded with emotional support; and emotional support has been associated with increased coping in college women.[29] It is possible that university resources that train peers to offer supportive responses through support groups and peer counseling would provide sexual assault survivors with a social network that facilitates the recovery process and has the potential to improve mental health outcomes.

Limitations

This study had several limitations. Consistent with previous research, only a small number of women reported using campus resources; therefore, the sample size in this study was small. Accordingly, the results of this study should be interpreted with caution, and similar analyses should be replicated in future studies with larger samples. The cross-sectional nature of this study design precluded making causal inferences between victimization, perceived helpfulness of university-affiliated resources, and mental health

outcomes. No conclusions could be drawn about a relationship between the concepts of helpfulness and effectiveness of university-affiliated resources in the recovery process.

In our study, we asked only one question about overall helpfulness. The psychometric properties of this question are unknown. Due to the small sample of women who used campus resources, we had limited power and could not adequately examine relationships between perceived helpfulness of specific resources, mental health outcomes, self-blame, and perceived control over recovery. While this study addressed an existing gap in the literature of women's experiences with university-affiliated resources, it did not address which characteristics of each resource were perceived as helpful or unhelpful.

Future research might include longitudinal studies to identify factors that may have a lasting effect on mental health after the college years. Qualitative studies might focus on how women characterize their encounters with university-affiliated resources to determine what factors contribute to differing levels of perceived helpfulness. The ways in which a sexual assault affects a woman's recovery, mental health, and perceived helpfulness of support services are complex. Future studies could examine personal characteristics of the survivor (e.g. personality traits, history of mental health diagnoses prior to the assault), events leading up to formal help-seeking, or perceptions of the university climate towards sexual assault. Obtaining clear timelines of help-seeking may also better inform university resources: How long after the assault did participants seek resources? Was resource use a one-time occurrence or ongoing? Were

off-campus resources used before or after university-affiliated resources? Finally, the small sample size in the current study did not allow for statistical analyses that examined relationships between the perceived helpfulness of the individual types of resources used and the mental health outcomes for survivors.

Conclusions

Sexual assault has become a topic of increasing interest in the popular media in recent years and federal mandates to address sexual violence on college campuses are under debate.[30] Currently, Title IX requires colleges and universities that receive federal funding provide sexual assault survivor resources.[30] The adverse, long term mental and physical health consequences of experiencing a sexual assault are well demonstrated in the literature [2] It is imperative that universities strive to provide resources that are helpful in order to optimize mental health outcomes for the survivors who use these resources. Examining sexual assault survivors' perceptions of helpfulness of university-affiliated resources is crucial in improving the quality of care delivered by these resources. Overall, the data indicate that perceived helpfulness of university-affiliated resources had a positive association with more psychological well-being. Developing a clearer understanding of perceived helpfulness is important in informing future research on the recovery process for sexual assault survivors. Identifying factors related to perceived helpfulness can improve the efforts of campus resources for women seeking help after a sexual assault. There has been very little research done on this subject, and an

understanding of survivor's help-seeking experiences with university resources plays an essential role in improving the recovery process.

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