The Relationship Between The Effects Of Rape, Posttraumatic Stress Disorder, Complex Trauma, And Post-Attack Victim-Perpetrator Interaction In Female College Students

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THE RELATIONSHIP BETWEEN THE EFFECTS OF RAPE, POSTTRAUMATIC STRESS DISORDER, COMPLEX TRAUMA, AND POST-ATTACK VICTIM-PERPETRATOR INTERACTION IN FEMALE COLLEGE STUDENTS

A dissertation presented in partial fulfillment of requirements for the degree of Doctor of Philosophy in the Department of Leadership and Counselor Education The University of Mississippi

By

STEPHANIE C. BELL

April 2015
ABSTRACT

The purpose of this study was to assess for effects of rape that are specific to women attending college and for relationships between the effects of rape, Posttraumatic Stress Disorder, previous trauma, complex trauma, and post-attack victim-perpetrator interaction to fill gaps in the literature around these issues. The survey was distributed to all female undergraduates at the main campus of a large, public university in the south (N = 8,400). The sample consisted of 463 women (response rate = 5.5%). The majority of participants were between the ages of 18-22, Caucasian, lived off-campus, and with roommates.

Participants received an e-mail sent from the registrar’s office containing information about online, anonymous study, a request for participation, and a list of counseling and psychoeducational resources. The survey consisted of a demographic questionnaire, questions about their experiences with rape since attending college, the Sexual Assault Symptom Scale-II (SASS-II), PTSD Checklist for DSM-5 (PCL-5), Stressful Life Events Screening Questionnaire-Revised (SLESQ-R), a question on life changes since their rape, and questions on post-attack victim-perpetrator interaction.

Sixteen percent reported being a victim of rape since attending college, and 84% of those women knew their perpetrator prior to the attack. Nearly half of those who were raped since attending college had been revictimized. Seventy-two percent of participants reported experiencing previous trauma, and 74.5% reported experiencing previous complex trauma. Of the women who were raped since attending college, 65.6% reported encountering their perpetrator since the attack, and 34.4% did not.
In analyzing the data, the researcher found that being a victim of rape or acquaintance rape while attending college was a significant influence on whether a participant would meet the Posttraumatic Stress Disorder threshold for diagnosis on the PTSD Checklist for DSM-5. There was evidence of a significant relationship between being a victim of rape since attending college and having a history of complex trauma. There was also evidence that being a victim of rape since attending college and encountering one’s perpetrator since the attack increased the participants’ Posttraumatic Stress Disorder symptoms, and the chances they would engage in more lifestyle changes.
DEDICATION

To all victims of rape who are now survivors, and capable of things you never thought possible.

“Sometimes the dreams that come true are the dreams you never even knew you had.”

-Alice Sebold
LIST OF ABBREVIATIONS AND SYMBOLS

AR Acquaintance Rape
CT Complex Trauma
DSM-5 Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition
PCL-5 PTSD Checklist for DSM-5
PT Previous Trauma
PTSD Posttraumatic Stress Disorder
RTS Rape Trauma Syndrome
RV Revictimization
SLESQ-R Stressful Life Events Screening Questionnaire-Revised
ACKNOWLEDGEMENTS

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CHAPTER 1: INTRODUCTION

Rape was first referred to as an “epidemic” (p. 62) by Diana Russell in her seminal book on sexual exploitation in 1984. According to the Campus Sexual Assault Study (CSA) completed through the United States Department of Justice (DOJ), 19% of 5,446 female respondents had experienced some form of sexual assault since entering college (Krebs, Lindquist, Warner, Fisher, & Martin, 2007). The CSA study also questioned college men (n = 1,375) and 6.1% of those respondents reported either attempted sexual assault or completed sexual assault since entering college. Although male victims of campus sexual assault are an important population to study, the scope of this dissertation only includes women. Of those women who experienced a sexual assault in the CSA study, 11.5% of them were victims of rape while in college (Krebs et al., 2007).

Compared to individuals who have not been a victim of rape, these individuals are more likely to abuse alcohol or drugs, suffer from depression, suffer from Posttraumatic Stress Disorder (PTSD), and contemplate suicide (World Health Organization, 2012; Kaltman, Krupnick, Stockton, Hooper, & Green, 2005; Zinzow et al., 2010). Rape victims are also more likely than non-victims to suffer from other mental health issues such as social phobia, obsessive-compulsive disorder, sexual dysfunction, major depressive episodes, lower ego-identity achievement, and an external locus of control (Kilpatrick, Best, Saunders, & Veronen, 1988; McEwan, de Man, & Simpson-Housley, 2005; Shapiro & Schwarz, 1997). According to Kilpatrick, Resnick, Ruggiero, Conoscenti, and McCauley (2007), the number of women who report symptoms of PTSD who have been raped in college are significantly higher than those in
the general population. Furthermore, those who have been victims of rape by non-strangers experience more PTSD symptomatology than those raped by strangers (Lawyer, Ruggiero, Resnick, Kilpatrick, & Saunders, 2006). Prior sexual victimization increases the length of recovery time from an incident like rape (Burgess & Holmstrom, 1978). Rape Trauma Syndrome (RTS) is another common effect of rape first documented in a 1974 landmark study by Burgess and Holmstrom.

Being assaulted while in college can create disorganization and cause significant lifestyle changes and upheaval in the life of the victim. For example, in the CSA study, over two-thirds of the female victims tried to consciously avoid their assailant on campus (Krebs et al., 2007). Although avoidance of the assailant is the most statistically significant lifestyle change found in the CSA study, other changes included: a) dropping a class, b) changing of major, c) seeking counseling, d) changing residence, e) changing universities, and f) filing a restraining order. A very small number of victims reported the crime, pursued civil or criminal charges, or filed a grievance with their university (Krebs et al., 2007). Additionally, it is common for college women to encounter the perpetrator of their sexual assault or rape in social situations, although very little research exists on post-attack victim-perpetrator interaction (Edwards, Kearns, Gidyecz, & Calhoun, 2012).

**Purpose of the Study**

The overall purpose of this study was to gain further understanding of how female rape victims in college are specifically affected by their victimization and surrounding environment following the attack. A secondary purpose was to assess for relationships between the effects of rape, Posttraumatic Stress Disorder, complex trauma, and post-attack victim perpetrator interaction in college women. The college campus community is a specific set of surroundings
not found in any other situation. Therefore, it is possible there are effects of rape specific to the college campus environment. By exploring what these other effects are, researchers and counselors will gain a more detailed understanding of what these women are going through and develop more effective counseling interventions over time.

A third purpose of the study was to fill several existing gaps in the literature relating the aforementioned constructs. Although revictimization (RV) is a common phenomenon studied in the literature in relation to repeated sexual assaults, there have not been any studies specifically studying complex trauma (a form of revictimization) as it relates to rape. Assessing for a relationship between previous trauma, complex trauma, and acquaintance rape is an issue not yet examined in the literature. For the purposes of this study, previous trauma was defined as one previously traumatic victimization, whereas complex trauma was defined as more than one previously traumatic victimization. There is a gap in the literature discussing post-attack relations between perpetrators and victims. A recent study showed victim-perpetrator interaction is common when the two parties are known to each other prior to the attack (Edwards, et al., 2012); therefore, further study on the nature of these interactions is necessary.

**Definition of Terms**

**Rape**

Brownmiller (1975) defined rape as:

> Sexual invasion of the body by force, an incursion into the private, personal inner space without consent – in short, an internal assault from one of several avenues and by one of several methods that constitutes a deliberate violation of emotional, physical, and rational integrity and is a hostile, degrading act of violence. (p. 376)

The National Crime Victimization Survey (NCVS, 2010) defines rape as:
Forced sexual intercourse including both psychological coercion as well as physical force. Forced sexual intercourse means vaginal, anal, or oral penetration by the offender(s). This category also includes incidents where the penetration is from a foreign object such as a bottle. Includes attempted rapes, male as well as female victims, and both heterosexual and homosexual rape. Attempted rape includes verbal threats of rape. (p. 13)

Although these definitions do not specify the sex of the rape victim, for the purposes of this study the definition will be confined to women. An integrated definition of acquaintance rape is provided below.

**Acquaintance Rape (AR)**

Acquaintance rape perpetrated against college women is most commonly defined as rape perpetrated by someone known to the victim, such as a boyfriend, ex-boyfriend, friend, classmate, or anyone whom the victim has interacted with before the rape occurs (i.e. a friend of a friend), (DOJ, 2000). The definition of acquaintance rape used in the study was, “sexual intercourse (penetration by a penis or object into your vagina, mouth, or buttocks) against your will by means of force, violence, coercion, or fear of bodily injury by a male (friend, classmate, acquaintance, casual date, boyfriend, complete stranger, family member, ex-boyfriend, or other)?”

**Rape Trauma Syndrome (RTS)**

Rape Trauma Syndrome (RTS) is an acute stress reaction on the part of the victim, emanating from the threat of being killed. RTS was originally characterized by two main phases: acute or disorganization and long-term or reorganization (Burgess & Holmstrom, 1974, 1979). The syndrome divides reactions into three categories: a) physical, b) emotional and c) behavioral (Burgess & Holmstrom, 1979).
Posttraumatic Stress Disorder (PTSD)

Posttraumatic Stress Disorder is currently classified as a trauma and stress related disorder according to the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5), (American Psychiatric Association [APA], 2013). In order to meet the diagnostic criteria an individual must meet all eight criteria described in the DSM-5. These eight criteria include: a) a stressor or traumatic event, b) intrusive symptoms, c) negative mood or cognitions, d) avoidance of persistent, distressing, trauma-related stimuli, e) trauma related changes in arousal or reactivity, f) duration of symptom persistence, g) significant impairment in daily functioning, and h) disturbances must not be due to medication, substance use, or other illness (APA, 2013).

Complex Trauma (CT)

Complex Trauma (CT) is any form of interpersonal trauma to which a child or adolescent is exposed on a chronic or intermittent basis (Cook, Blaustein, Spinazzola, & van der Kolk, 2003). CT includes any form of child abuse or neglect (physical, verbal, sexual), exposure to community or domestic violence, or any other type of trauma. CT affects children and adolescents across eight domains: a) attachment, b) biology, c) affect regulation, d) dissociation, e) behavioral control, f) cognition, and g) self-concept (Cook et al., 2003).

Statement of Significance

The results of the study will have significant effects in several different areas. First, there are implications to all types of mental health professionals who will gain a better understanding of the effects of rape in college women. Second, the results will inform factions within higher education and have implications for Title IX on college campuses. Third, future female rape victims will be affected by this research because it will inform the helping professionals they
may seek out after being victimized. And fourth, data from this study will make assessment of post-rape symptomatology specific to this population more concise.

**Mental Health Professionals**

Counselors, psychologists, and other mental health professionals will benefit from a better understanding of victims’ reactions to unwanted sexual experiences and rape on college campuses. Victims of rape often do not report their attack to authorities but rather seek out some type of counseling. Therefore, by gaining a better understanding of the effects of rape and acquaintance rape on these victims, counselors will be better prepared to help with their presenting issues. The information obtained from this study will allow for more specific interventions to be created for use in counseling with this population.

**Higher Education**

Campus rape is currently a hot button issue in the media. Title IX of the Education Amendments of 1972 was applied to colleges and universities to help protect their students from sexual violence. Title IX requires each school to have a Title IX coordinator to oversee complaints of sexual harassment or sexual violence, and ensure the school is in compliance with Title IX requirements. Title IX requires each school write and distribute a policy against sex discrimination and provide information to students on how to file a grievance if they feel they have been discriminated against based on their sex (United States Department of Education, 2014).

The May 2014 issue of *Time Magazine*’s cover read, “Rape: The Crisis in Higher Education.” (Gray, 2014). *The Nation* ran a similar story in June 2014 telling the story of a female freshman who was raped by a friend while attending college (Goldberg, 2014). President Obama launched a campaign against sexual assault on college campuses, charging colleges and
universities to support victims of sexual assault on campus and develop and implement preventative measures. This study will provide information on the incidences of rape and acquaintance rape on college campuses and describe effects specific to female victims of rape on campus.

**Female Rape Victims on College Campuses**

For the future, the results of this study will help counselors, educators, and administrators better understand victims of rape and their experiences after the attack. Having a clear picture of what challenges these women face on a daily basis on a college campus helps in planning interventions with these women and perhaps prevent further victimization and re-traumatization.

**Assessment of Symptomatology**

If significant patterns of symptoms specific to this group emerge through the research, this information could be used to help develop an assessment specific to this population. An assessment specific to this information would help mental health professionals with their initial clinical impressions of clients who present with symptoms of rape trauma.

**Research Question and Hypotheses**

The overarching research question for the study was: are there relationships between the effects of rape, Posttraumatic Stress Disorder, complex trauma, and post-attack victim-perpetrator interaction specific to college age women attending a four-year university? Each hypothesis is presented first as a null hypothesis and followed by the research hypothesis. The hypotheses derived from the research question are as follows:

\[ H_{01A} \]: There is not a significant relationship between whether college age women experienced rape since attending college and whether they met the PCL-5 threshold for PTSD diagnosis.
H_{R1A}: There is a significant relationship between whether college age women experienced rape since attending college and whether they met the PCL-5 threshold for PTSD diagnosis. In particular, college age women who experienced rape since attending college were more likely to meet the PCL-5 threshold for PTSD diagnosis.

H_{01B}: There is not a significant relationship between whether college age women experienced acquaintance rape since attending college and whether they met the PCL-5 threshold for PTSD diagnosis.

H_{R1B}: There is a significant relationship between whether college age women experienced acquaintance rape since attending college and whether they met the PCL-5 threshold for PTSD diagnosis. In particular, college age women who experienced rape since attending college were more likely to meet the PCL-5 threshold for PTSD diagnosis.

H_{02A}: For college age women who have experienced rape since attending college, there is no significant difference in mean PCL-5 score by PT status as indicated by the SLESQ-R.

H_{R2A}: For college age women who have experienced rape since attending college, there is a significant difference in mean PCL-5 score by PT status as indicated by the SLESQ-R. In particular, college age women who experienced rape since attending college and experienced PT will have a significantly higher mean score on the PCL-5.

H_{02B}: For college age women who have experienced acquaintance rape since attending college, there is no significant difference in mean PCL-5 score by PT status as indicated by the SLESQ-R.
$H_{R2B}$: For college age women who have experienced acquaintance rape since attending college, there is a significant difference in mean PCL-5 score by PT status as indicated by the SLESQ-R. In particular, college age women who experienced acquaintance rape since attending college and experienced PT will have a significantly higher mean score on the PCL-5.

$H_{03A}$: For college age women who have experienced rape since attending college, there is no significant difference in mean PCL-5 score by CT status as indicated by the SLESQ-R.

$H_{R3A}$: For college age women who have experienced rape since attending college, there is a significant difference in mean PCL-5 score by CT status as indicated by the SLESQ-R. In particular, college age women who experienced rape since attending college and experienced CT will have a significantly higher mean score on the PCL-5.

$H_{03B}$: For college age women who have experienced acquaintance rape since attending college, there is no significant difference in mean PCL-5 score by CT status as indicated by the SLESQ-R.

$H_{R3B}$: For college age women who have experienced acquaintance rape since attending college, there is a significant difference in mean PCL-5 score by CT status as indicated by the SLESQ-R. In particular, college age women who experienced acquaintance rape since attending college and experienced CT will have a significantly higher mean score on the PCL-5.

$H_{04A}$: For college age women who experienced rape since attending college and CT as indicated by the SLESQ-R, there is no significant difference in levels of rape.
H_{R4A}: For college age women who experienced rape since attending college and CT as indicated by the SLESQ-R, there is a significant difference in levels of rape. College women who have experienced rape and CT as indicated by the SLESQ-R will experience higher frequencies of rape.

H_{04B}: For college age women who experienced AR since attending college and CT as indicated by the SLESQ-R, there is no significant difference in levels of AR.

H_{R4B}: For college age women who experienced AR since attending college and CT as indicated by the SLESQ-R, there is a significant difference in levels of rape. College women who have experienced rape and CT as indicated by the SLESQ-R will experience higher frequencies of AR.

H_{05A}: For college age women who experienced rape since attending college, there is no significant difference in either mean PCL-5 score or mean SASS-II score by encounter status.

H_{R5A}: For college age women who experienced rape since attending college, there is a significant difference in either mean PCL-5 score or mean SASS-II score by encounter status. In particular, college women who have encountered their perpetrator since the attack will have higher mean scores on the PCL-5 and SASS-II.

H_{05B}: For college age women who experienced AR since attending college, there is no significant difference in either mean PCL-5 score or mean SASS-II score by encounter status.

H_{R5B}: For college age women who experienced AR since attending college, there is a significant difference in either mean PCL-5 score or mean SASS-II score by
encounter status. In particular, college women who have encountered their perpetrator since the attack will have higher mean scores on the PCL-5 and SASS-II.

H_{06A}: For college age women who experienced rape since attending college, there is no significant difference in mean number of lifestyle changes by encounter status.

H_{R6A}: For college age women who experienced rape since attending college, there is a significant difference in mean number of lifestyle changes by encounter status. In particular, college age women who encountered their perpetrator since the attack have a higher mean number of lifestyle changes.

H_{06B}: For college age women who experienced AR since attending college, there is no significant difference in mean number of lifestyle changes by encounter status.

H_{R6B}: For college age women who experienced AR since attending college, there is a significant difference in mean number of lifestyle changes by encounter status. In particular, college age women who encountered their perpetrator since the attack have a higher mean number of lifestyle changes.

Statement of Limitations

There are several potential limitations of the study based on sample size, generalizability, sensitivity of the topic, and instrumentation. The study was disseminated to all undergraduate women at a large, public university in the southeast (N = 8,400) where 59% identify as in-state residents. Reported ethnicities of undergraduate women at the university are as follows: 75% white, 15% African American, 4% Asian, 3% Hispanic or Latino, 1.8% identified as two or more races, 0.3% American Indian, and 0.1% Native Hawaiian or Pacific Islander. The results should be generalizable to female college students at similar institutions in the United States.
The topics of rape and previous trauma are sensitive, especially to those who have experienced them. The sensitivity of the topics was a possible limitation as some women might not have wished to disclose such personal information about themselves. However, by providing a confidential, safe environment for the participants to disclose the researcher hoped the topics would not inhibit participation.

The study contains three author generated questions and two instruments not rigorously tested previously. These items were potential limitations to the study for reasons of reliability and validity. However, this study may bring new insight into the field in that these concepts have never been studied together.

Summary

In review, Chapter 1 discussed the purpose of the study, important definitions, statements of significance, research questions and hypotheses, and the potential limitations of the study. Going forward, Chapter 2 will provide a literature review of major topics including rape, acquaintance rape, revictimization, complex trauma, effects of rape, and post-attack victim-perpetrator interaction, including how each of these constructs were assessed for in the study. In Chapter 3 the methodology of the study is discussed including the design of the study, subject recruitment, instrumentation with information on reliability and validity, and data analysis procedures. In Chapter 4, the results of the research are reported in statistical form along with the data analysis. And in Chapter 5, a discussion of the results, implications for future research, and limitations of the study are included.
CHAPTER 2: LITERATURE REVIEW

Introduction

According to the United States Department of Justice, almost 208,000 people are victims of rape every year and 80% of female victims are between the ages of 18 and 30 (DOJ, 2010). Although rape is a significant problem in today’s society, the residual effects of rape can be devastating to its victim. The aftermath of rape brings physical and psychological effects that often interfere with the victim’s daily functioning. Compared to individuals who have not been a victim of rape, these individuals are more likely to abuse alcohol or drugs, suffer from depression, suffer from Posttraumatic Stress Disorder (PTSD) and contemplate suicide (WHO, 2012).

Acquaintance rape (AR) is the most common type of rape that occurs on college campuses, and 90% of rape victims in college know their attackers (DOJ, 2000). However, a majority of female college students in a study conducted by Norris, Nurius, and Dimeff (1996) believed they were at low risk for acquaintance rape. For victims of AR, especially those in the college population, the effects of the attack can be even more devastating because of the tight-knit, community environment and the stigma attached to AR (Warshaw, 1994; Schwartz & Leggett, 1999). Often, those close to the victim may not believe the story of the attack or may devalue it and not classify it as actually being rape (Warshaw, 1994).

Burgess and Holmstrom first identified common reactions to rape in their 1974 landmark study. These symptom clusters are referred to as Rape Trauma Syndrome (RTS) and are divided
into two phases (Burgess & Holmstrom, 1974). Interestingly, victims of AR may not show symptoms of RTS or PTSD until years after the attack (Warshaw, 1994). Some of the concepts from RTS have been integrated into the diagnostic criteria for PTSD as found in the DSM-5 (APA, 2013). Perceived safety is often affected in women who have been victims of a sexual assault, which can cause significant life changes (Cascardi, Riggs, Hearst-Ikeda, & Foa, 1996; Culbertson, Vik, & Kooiman, 2001).

The literature review will explain the scope of the problem of AR with college women, and the concept of previous trauma and revictimization including complex trauma. Common effects of rape are covered including Rape Trauma Syndrome, and Posttraumatic Stress Disorder. Finally, the impact of acquaintance rape is discussed with a focus on post-assault victim-perpetrator interaction. Each of these sections is followed by an explanation of how the research assessed for them.

**Acquaintance Rape**

Acquaintance rape (AR) among college women is most commonly defined as rape perpetrated by someone known to the victim, such as a boyfriend, ex-boyfriend, friend, classmate, or anyone with whom the victim has interacted before the rape occurs (e.g., a friend of a friend), (DOJ, 2000). However, studies have shown that underreporting of AR is even more than with stranger rape, as low as 2% (Wiehe & Richards, 1995). Because 90% of college women know their rapists, the dynamic of their response to the attack may be different than a woman from the general population. Women who are victims of stranger rape often gain the social support of those close to them, whereas victims of AR are often treated differently by their peers (Warshaw, 1994). For example, the social stigma attached to AR often causes others to
blame the victim and increases the victim’s likelihood to keep the rape a secret. In keeping her secret, the woman is unknowingly stagnating her recovery process (Warshaw, 1994).

Female victims of AR may have more trust issues with men stemming from their rape when compared to victims of stranger rape. Because these women were violated by someone they thought they could trust, the emotional consequences are even more serious (Warshaw, 1994). Victims of AR often question whether their attack actually fits the definition of rape. Those who do not recognize they have been attacked cannot get help, which prolongs the recovery process (Schwartz & Leggett, 1999). Victims who do not report their attack to authorities are referred to as “hidden victims” (p. 193) in one of Koss’ (1985) seminal works on the topic titled, “The Hidden Rape Victim: Personality, Attitudinal, and Situational Characteristics.”

These victims may not receive support from their significant others, friends, or family members because of the type of rape they endured. Partners may not view what happened as rape and therefore cannot validate the victims’ feelings about the attack. For example, on a college campus, if a girl is raped by her boyfriends’ best friend and she discloses that to her boyfriend, because the perpetrator is known to both of them, and one of his friends, he may be less inclined to believe her (Warshaw, 1994). Family values and religious beliefs may influence the family’s reaction to the attack. For example, some religious traditions expect a woman to remain a virgin until marriage; therefore, if she is raped and no longer a virgin she may be cast out of the family. In contrast, many women do not tell their families about the rape at all for fear of their reaction, or the pain it could cause themselves and their family members (Warshaw, 1994). However, regardless of whether a prior relationship existed between victim and perpetrator, all women who
are raped are at risk of developing significant psychological issues such as Rape Trauma Syndrome and Posttraumatic Stress Disorder.

**Assessing for Acquaintance Rape**

To assess for the incidence of rape and AR in this study, the participants were asked one author-generated question at the end of the demographic questionnaire: “Since attending college, have you ever engaged in sexual intercourse (penetration by a penis or object into your vagina, mouth, or buttocks) against your will by means of force, violence, coercion, or fear of bodily injury by a male (friend, classmate, acquaintance, casual date, boyfriend, stranger, family member, or ex-boyfriend, or other)?” This question was created based on current definitions of rape and AR in the literature and research citing the importance of behaviorally specific questions that do not use the word rape as many victims of rape or AR are unacknowledged victims (Cook, Gidycz, Koss, & Murphy, 2011). The question included answer choices that would not be considered acquaintances for purposes of inclusion in the study.

**PreviousVictimization**

Previous victimization has been cited as a predictor for victimization later in life, a phenomenon often referred to as revictimization (RV) (Gidycz, Coble, Latham, & Layman, 1993). Complex trauma is considered a form of RV because it is a trauma that has been re-experienced over time.

**Revictimization (RV)**

Gidycz et al., (1993) conducted one of the first studies examining rates of RV in a sample of college women (n = 857). They conducted a path analysis to explore histories of child and adolescent sexual victimization related to recent sexual victimization. The path analysis
showed that sexual victimization early on in life was a risk factor for later victimization (Gidycz et al., 1993).

In a longitudinal study of 1,569 undergraduate women, Humphrey and White (2000) found that sexual victimization prior to age 14 almost doubled the risk of victimization later in life. More detail from the analysis revealed there was a correlation between increased severity of victimization prior to age 14 and increased risk of collegiate victimization. Furthermore, adolescent victims of attempted rape or rape were 4.4 times more likely to be victims of assault in their first year of college (Humphrey & White, 2000).

Breitenbecher (2001) divides theories of RV in her review of the literature into eight factors: a) spurious factors, b) situational variables, c) disturbed interpersonal relationships, d) cognitive attributions, e) self-blame and self-esteem, f) coping skills, g) threat perception and trauma-related symptomatology (including dissociation and PTSD), and h) general psychosocial and psychological adjustment.

Breitenbecher (2001) describes each of the eight factors of revictimization. Spurious factors include those said to inflate the rates of sexual revictimization such as a woman’s willingness to disclose unwanted sexual experiences. Situational variables include alcohol or drug use, and previous multiple, consensual sex partners. Disturbed interpersonal relationships include individuals with dysfunctional interpersonal schemas, and dependency. Cognitive attributions are those that contribute to mastery and self-efficacy, which are both tied to the theory of learned helplessness. High self-blame and low-self esteem have both been researched as contributing factors to RV (Breitenbecher, 2001). Coping skills have shown to affect adjustment post-sexual assault. Reduced ability to perceive a threatening situation may lead to repeated victimization in the future. Other factors that fall under the scope of psychosocial and
psychological adjustment include: a) depression, b) global distress, c) social anxiety, and d) adjustment (Breitenbecher, 2001).

Littleton, Axsom, and Grills-Taquechel (2009) found that not acknowledging a rape (which happens for the majority of AR victims) is a risk factor for RV. In their study of 334 acknowledged and unacknowledged rape victims, those who had not acknowledged their rape, were twice as likely to report an attempted rape during a 6-month follow-up assessment (Littleton et al., 2009).

Messman-Moore and Brown (2006) conducted a study with 339 college women to assess for risk perception and RV. They used the Life Events Questionnaire, Trauma Symptom Inventory, Sexual Experiences Survey, and Risk Perception Survey and collected data on four occasions during one academic year. At the initial assessment, they found that 56.8% of participants reported some type of unwanted sexual experience in adulthood, 13.9% of those experiences included rape. Childhood victimization was reported in 10% of their sample. Over the course of the academic year, 43.4% of women reported some type of unwanted sexual experience, and 9.9% of them experienced at least one rape during the course of the study. Messman-Moore and Brown (2006) found RV was prevalent with women who had been victims of childhood sexual abuse, and were raped again during the time they participated in the study (1 in 5). They found that 53.8% of women raped during the study follow-up period had a history of childhood victimization or adult rape or both.

**Complex trauma (CT)**

*Complex Trauma (CT)* is a term used to describe the effects of different types of trauma a child or adolescent may experience at the hands of a caregiver. The caregiver may be a parent, foster parent, other relative, or anyone whom the individual relies on for stability, safety, and
getting their basic needs met (Chu, 2011; Cook, Blaustein, Spinazzola, & van der Kolk, 2003; Cook et al., 2005; Courtois & Ford, 2013). CT is differentiated from other types of trauma in that it must be an interpersonal trauma (Courtois, 2010), and Herman (1992b) makes a point to state that the effects of CT are beyond the scope of a PTSD diagnosis. Courtois (2008) examined the diagnostic criteria for the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV) as it relates to CT, and discussed that it would be a relevant addition to the DSM-5, although no such addition was included.

In a survey conducted by the National Child Traumatic Stress Network (NCTSN), the researchers found that 78% of participants had been exposed to multiple incidences of trauma or prolonged trauma (Spinazzola et al., 2003). Spinazzola et al. (2003) found that psychological trauma was the most common form of victimization the participants experienced (59.3%), followed by traumatic loss (55.6%), impaired caregivers (mental health problems or substance abuse) (47.1%), domestic violence (45.8%), and child sexual abuse (40.8%).

CT encompasses all forms of maltreatment of children and adolescents including physical abuse, sexual abuse, emotional abuse, neglect, and/or bearing witness to interpersonal violence (Cook et al., 2003). Other forms of trauma may include: a) traumatic loss, b) serious medical illness, c) effects of homelessness or prostitution, d) physical or sexual assaults by peers, and/or e) exposure to community violence. These events happen repeatedly and are often part of an ongoing cycle of violence and abuse (Briere & Lanktree, 2012).

In a meta-analysis of 128 studies from international scholarly journals, Lalor and McElvaney (2010) found the risk of revictimization for victims of child sexual abuse to be between 2 and 13.7 times (between the 128 studies).
CT affects development in children and adolescents across seven domains: a) attachment, b) biology, c) affect regulation, d) dissociation, e) behavioral control, f) cognition, and g) self-concept (Cook et al., 2003). In terms of attachment, children learn their earliest lessons on this topic from their primary caregiver. When their attachment is impaired they are more likely to have problems with a) boundaries, b) attuning to other’s emotional states, c) enlisting others as allies, and d) mistrust and suspiciousness of others. Children and adolescents exposed to early trauma will also experience biological problems. They may have impairments in sensorimotor functioning, experience a hypersensitivity to physical contact, somatization, and increased general medical problems. Affect regulation is impaired based on CT. Children and adolescents may show difficulty identifying and describing internal states, communicating their desires and wishes, describing their feelings, and regulating their emotions. CT exposure may also cause dissociation with children and adolescents. They may experience derealization and depersonalization along with amnesia, and distinct alterations in consciousness. There are many symptoms of a lack of behavioral control in children and adolescents with a history of CT. These behaviors may manifest themselves as: a) self-destructive behavior, b) eating disorders, c) re-enactment of trauma in day to day behavior or play, d) sleep disruption, e) substance abuse, f) poor impulse control, or g) oppositional behavior. CT in learning difficulties, lack of sustained curiosity, problems with sustaining attention, and problems with language development and orientation to time and space may affect cognition. CT may also affect children and adolescent’s self-concept by causing disturbances in body image, low self-esteem, high sense of shame and guilt, and a poor sense of separateness (Cook et al., 2003). There are effects of CT that can be seen in adulthood, most notably, symptoms of PTSD (Cook et al., 2003; Duckworth & Follette, 2011).
Several studies were conducted relating child abuse to sexual assault in college women. Berhard and Berhard (1983) conducted the seminal study connecting child abuse and date abuse later in life. Sappington, Pharr, Tunstall, and Rikert (1997) gathered data from 133 female undergraduates using an author-generated experiences questionnaire, an anger and hostility scale, and the Rosenberg Self-Esteem Scale. They found that verbal, physical, and sexual abuse as a child increased the risk of abuse by a date later in life (Sappington et al., 1997). Messman-Moore, Long, and Siegfried (2000) examined the differences in cumulative effects between college women who were victims of abuse as children and revictimized as adults verses women who had just suffered victimization as adults. They found that women who were survivors of childhood sexual abuse and experienced either physical or sexual victimization as adults experienced more distressing symptomatology than women who had only experienced victimization as an adult (Messman-Moore et al., 2000). Gibson and Leitenberg (2001) repeated similar results in their study of child sexual abuse survivors and college sexual assault victims. Thirty-six percent of participants who had experienced sexual assault in the last year had also experienced some form of child abuse. Furthermore, the young women with a history of prior sexual abuse showed significantly more PTSD symptomatology (Gibson & Leitenberg, 2001).

Maker, Kemmelmeier, and Peterson (2001) found childhood sexual abuse before age 16 to be a predictor of sexual assault later in life. They studied 133 women on measures of child sexual abuse, peer sexual abuse, adult sexual assault with comorbid risk factors including: a) witnessing physical violence between parents, b) childhood physical abuse, c) parental drug use, d) parental alcohol abuse, and e) parental antisocial behaviors. The researchers also assessed for psychological outcomes including trauma and depression, and behavioral outcomes including relationship violence, partner or date substance use, and antisocial behaviors. Their study
confirmed previous research demonstrating the relationship between child sexual abuse and adult victimization (Maker et al., 2001).

Recent literature shows some confusion about CT in that the term complex trauma has been referred to as the actual traumatic events, as well as the following symptomatology (sometimes referred to as CPTSD or complex PTSD) (Kliethermes, Schacht, & Drewry, 2014). For the purposes of this study, CT will be used only to indicate the traumatic events.

Assessing for complex trauma. There is not any one assessment specifically built to assess for CT; thus, for this study the researcher will use the Stressful Life Events Screening Questionnaire-Revised (SLESQ-R) developed by Goodman, Corcoran, Turner, Yuan, and Green (1998). The original SLESQ is a brief self-report measure to assess for the lifetime incidence of exposure to potentially traumatic events (Goodman et al., 1998). The instrument utilizes Criterion A events from the DSM as examples for each item. For the purposes of this study, the SLESQ-R will be used to assess for the incidence of complex trauma and/or previous victimization for the participants. The questionnaire was constructed using two pilot studies. The first was administered to 265 college women to determine if the questions were behaviorally specific and concrete enough. With information gleaned from the first pilot, the researchers added several new questions to elicit information about specific events. The second pilot was the initial study of the reliability and validity of the SLESQ based on the revision from the first pilot.

The second pilot instrument was administered to 60 college students, both males and females. Thirty days later, 30 participants were interviewed in-person about previous trauma experience and the other 30 participants completed the instrument again. Based on these two administrations, test-retest reliability was found to be “adequate” (Goodman et al., 1998, p. 525).
The first two pilots were instrumental in creating the first official version of SLESQ-R that was utilized in Goodman et al., 1998 study.

**Common Effects of Rape**

There are a variety of effects rape victims experience over time. The first effects of rape were conceptualized by Burgess and Holmstrom in 1974 and deemed *Rape Trauma Syndrome* (RTS). A second major effect of rape found in numerous studies is Posttraumatic Stress Disorder. A review of the major concepts of Rape Trauma Syndrome and Posttraumatic Stress Disorder follows.

**Rape Trauma Syndrome (RTS)**

In 1974, Burgess and Holmstrom published their landmark study on women’s reactions to rape in which the term, *rape trauma syndrome*, was first coined. Their study included 146 women between the ages of 17 and 73. Each participant was a victim of rape who received post assault treatment in the emergency department at Boston City Hospital between July 20, 1972 and July 19, 1973. Burgess and Holmstrom conducted detailed interviews with each victim within 30 minutes of the victims’ arrival at the hospital. They also conducted follow-up interviews with the victims via telephone and personal visits during the year following the rape. The characteristics of RTS they discovered came from interviews with 92 of the women from the study who fell into the category of forcible rape. Detailed notes of all interviews and follow-up conversations were taken and the researchers were able to develop a model of response to rape based on their findings (Burgess & Holmstrom, 1974).

**Defining RTS**

RTS is an acute stress reaction on the part of the victim, emanating from the threat of being killed. RTS was originally characterized by two main phases: acute or disorganization and
long-term or reorganization (Burgess & Holmstrom, 1974, 1979). The syndrome divides reactions into three categories: a) physical, b) emotional, and c) behavioral (Burgess & Holmstrom, 1979).

**Phase one.** The first phase, called the acute phase, is referred to as “disorganized” (Burgess & Holmstrom, 1974, p. 982). Reactions of the victims upon arriving at the hospital were divided into two styles: expressive or controlled. The expressive reaction is characterized by a flooding of feelings such as anxiety, fear, and anger, which are often expressed through sobbing, tenseness, and crying. In the controlled reaction, feelings are often suppressed or hidden and the victims appear calm and collected. There were many somatic reactions noted by the victims in the study. These reactions included (a) physical trauma, (b) gastrointestinal problems, (c) tension headaches, (d) fatigue, (e) sleep disturbance, (f) startle reactions, and (g) gynecological/menstrual problems (Burgess & Holmstrom, 1974).

The victims described many physical problems as well. Often they were area or attack specific, but some reported soreness over their entire bodies. Sleep pattern disturbances were reported by many of the victims. Some complained of not being able to sleep at all, or if they did fall asleep they woke up and could not go back to sleep (Burgess & Holmstrom, 1979). Changes in eating patterns were noted by many victims. Immediately following the attack a noticeable decrease in appetite was reported. Other reactions included chronic stomach upset and nausea (Burgess & Holmstrom, 1979).

In addition to the somatic complaints and physical problems, all the victims presented with significant emotional reactions. Fear was the most common of the emotional reactions, including fear of bodily injury and death. Strong emotions were evoked in victims when seeing places, cars, or people similar to those who perpetrated their attack. Victims became more
cautious of people around them. Other emotions victims’ experienced included: a) anger, b) revenge, c) embarrassment, d) self-blame, and e) irritation (Burgess & Holmstrom, 1974, 1979). Because of the wide range of emotions experienced following the rape, victims were often prone to mood swings. Some of the women were upset about their constant emotionality, which often produced more distress (Burgess & Holmstrom, 1979). To alleviate their distress, victims attempted to block thoughts of the attack from their minds. The amount of time victims stayed in the acute phase varied from woman to woman, and many of the symptoms from this phase overlapped into the second, long-term phase.

**Phase two.** The second phase is the long-term process phase and is referred to as “reorganization” (Burgess & Holmstrom, 1974, p. 983). The reorganization process is more variable in its appearance as Burgess and Holmstrom (1974) found it began at a different time for every victim in the study. All participants made significant lifestyle changes as part of the long-term effects of the study. Changing one’s residence and telephone number were common examples. Many victims sought out support from friends or family members not seen on a daily basis, meaning they often had to travel to another city (Burgess & Holmstrom, 1974). Although some were able to tell their loved ones what happened, others were not (Burgess & Holmstrom, 1979).

Many of the physical problems reported in the acute phase continued into the reorganization phase. The most prominent of those problems were gynecological and menstrual (Burgess & Holmstrom, 1979). Dreams and nightmares were common problems reported by women in the study. Often these symptoms began in the acute phase but intensified during the reorganization phase (Burgess & Holmstrom, 1979). Victims most commonly reported two types of nightmares. During the first type, the victim is in a similar situation to the rape itself, she is
trying to get out of it, but fails. In the second type of nightmare, the content is still violent, but the victim has control of the situation. The second type occurs most often after a significant amount of time has passed since the attack (Burgess & Holmstrom, 1979).

During the reorganization phase, many of the victims developed a series of phobic reactions. Most of the phobias developed related to circumstances specific to the attack. For example, a victim might develop a fear related to a specific characteristic of her assailant such as a smell (Burgess & Holmstrom, 1979). Burgess and Holmstrom (1974) referred to rape specific fears using the term “traumatophobia” (p. 984). This term was originally coined as a way of describing veterans’ traumatic reactions to war (Rado, 1948). These fears included: (a) being indoors or outdoors, (b) being alone, (c) being in crowds, (d) having people behind them, and (e) sexual problems (Burgess & Holmstrom, 1974). Due to many of these fears, social functioning in most victims decreased significantly. The victims were still able to go to work or school, but not participate in any other activities. Another fear reported by women was fear of sex after the rape. If the victim never had a sexual experience prior to the rape they had no other experience to which to compare it and think sex will always be traumatizing. For victims who were previously sexual, their normal sexual routine was disrupted and they often feared confrontation on the part of their boyfriend or husband. Intensity of sexual desire also decreased in some women (Burgess & Holmstrom, 1979). This two-phase response model provided a concise means of describing the after effects of a sexual assault; however, additional phases, variations and sophistication have been added to the original model.

Variations. More recently the steps in the process of recovering from sexual assault have been more clearly delineated and each stage is now described in terms of physical, emotional and behavioral reactions. The new order of the stages is as follows: (a) acute, (b)
underground, (c) reorganization (Villian, 2012). The developmental stage is a new consideration as part of RTS. The meaning of an assault can change reactions for women in different developmental stages (e.g., adolescents or adults), and the manifestations of symptoms may be different. Although the acute and reorganization stages stay the same, the underground stage is an important addition to the timeline of RTS (Villian, 2012). The underground stage is characterized by a period of time during which the victim acts as if the rape never occurred. As described earlier, blocking of thoughts is a coping mechanism often utilized during this stage. Victims may experience depression and difficulty with concentration during the underground stage. This stage can continue for years while the victims avoid the unresolved emotional issues related to the rape (Villian, 2012).

Burgess and Holmstrom (1985) integrated the concept of RTS into PTSD, labeling it “Rape Related Post Traumatic Stress Disorder” (p. 49). They matched the symptoms of RTS they found in their research to the DSM-III criteria for PTSD (Burgess & Holmstrom, 1985). This was an important comparison as RTS has essentially been absorbed by the PTSD diagnosis in current literature.

**Posttraumatic Stress Disorder (PTSD)**

Posttraumatic Stress Disorder (PTSD) first appeared as a psychiatric diagnosis in the DSM-III (APA, 1980). PTSD encompasses many of the ideas that were first identified as RTS. According to their landmark study, incidences of PTSD symptoms were estimated to affect around 80% of rape victims (Kilpatrick, Saunders, Amick-McMullan, Best, Veronen, & Resnick, 1989). However, their study was conducted based on the diagnostic criteria from the DSM-IV-TR. The American Psychiatric Association (APA) has recently released a 5th edition of the DSM, and there have been no studies conducted on PTSD symptoms with rape victims given the
new diagnostic criteria. Additionally, in the DSM-IV-TR, PTSD was classified as an anxiety disorder, which is no longer the case (APA, 2000). Also, more specificity is provided to those who have experienced a sexual violation in the DSM-5. An outline for the new diagnostic criteria from the DSM-5 follows (APA, 2013).

The Posttraumatic Stress Disorder diagnosis is divided into eight different criteria. The first criterion, called Criterion A, is labeled as a stressor. For this criterion, the person must have been exposed to a death, threatened death, actual or threatened sexual violence, or actual or threatened serious injury. One of the following conditions must be met in order to satisfy this criteria: a) person was directly exposed, b) person was a witness to said event, c) person was exposed indirectly by learning a close friend or family member had experienced such a trauma, or d) the person experienced indirect or repeated exposure to specific, graphic details of events (often in the course of professional duties such as those of a first responder), (APA, 2013).

Criterion B covers intrusion symptoms meaning the traumatic event is re-experienced, persistently, in at least one of the following ways: a) intrusive, recurrent, and involuntary memories of the event, b) traumatic nightmares, c) dissociative reactions such as flashbacks, d) noticeable psychological reactivity to trauma-related stimuli, and e) and intense or prolonged distress after exposure to traumatic triggers (APA, 2013). The third criterion, Criterion C, covers avoidance of persistent, distressing trauma-related stimuli. One of the following are required to meet this criterion: a) trauma-related triggers (activities, places, people, objects, or situations) or b) trauma-related thoughts or feelings (APA, 2013).

Criterion D covers negative mood or cognitions experienced after the traumatic event. At least two of the following must be experienced: a) consistent inability to experience positive emotions, b) inability to recall features of the traumatic event, c) feeling detached or alienated
from others, d) noticeably diminished interest in pre-trauma significant activities, e) persistent blame of others or self (irrationally) for the traumatic event, f) persistent negative trauma-related emotions, and g) persistent negative and distorted expectations and beliefs about the world or oneself. Criterion E discusses trauma-related changes in arousal and reactivity that began or got worse after the traumatic event. At least two of these symptoms are required: a) sleep disturbance, b) hyper vigilance, c) exaggerated startle response, d) self-destructive or reckless behavior, e) problems concentrating, f) aggressive or irritable behavior (APA, 2013).

The 5th criterion, Criterion F, states the symptoms must have persisted for more than one month. Criterion G requires there be significant impairment in day-to-day functioning since the trauma. Finally, Criterion H states the disturbances must not be due to substance use, other illness, or medication (APA, 2013).

**Assessing for PTSD.** To assess for PTSD in this study the researcher used the PTSD Checklist for DSM-5 (PCL-5). The PCL-5 was developed based on the new PTSD diagnostic criteria for the DSM-5. The PCL-5 has not been used in the existing literature yet, but testing of the instrument is underway. The original PCL-IV was a 17-item self-report measure to assess for symptoms of PTSD. There are three versions: the PCL-M for military personnel, the PCL-S for a specific event, and the PCL-C for general symptoms for civilians (Weathers, Litz, Herman, Huska, & Keane, 1993).

**Impact of Acquaintance Rape**

According to the National Institute of Justice’s (NIJ) report on sexual victimization in college women, 27.7 per 1,000 female students were raped between 1996 and 2000 (DOJ, 2000). Research also shows 90% of college women knew their rapists; whereas, in the general population, that percentage drops to about 70% (DOJ, 2000; DOJ, 2010). These victims may be
left with even more devastating after effects of the attack as their daily routines and activities may continue to bring them face-to-face with their attacker. Knowing the definitions of rape and AR may help victims correctly identify themselves as victims of such an attack (Littleton, Axsom, Breitkopf, & Berenson, 2006).

Guerette and Caron published a qualitative study on acquaintance rape in 2007. They used 12 in-depth interviews to assess whether victims of AR followed suggested protocols post-assault (seeking medical help, contacting police, etc.). They also examined to whom the victim disclosed their rape and how the reactions of those to whom she disclosed affected her. They found most women did not seek any type of professional help after their attack. However, most agreed that help and support from friends and family was keenly important in their recovery from the attack. Some of the victims also mentioned friends and family who were not supportive and how that negatively impacted them (Guerette & Caron, 2007).

Carretta (2011) wrote her dissertation research on a related topic. She used anonymous web surveys to assess for differences in rape victims based on the type of rape they experienced, the relationship between the perpetrator and the victim, and potential protective factors. She found there were statistically significant differences between type of rape and levels of depression and PTSD in participants. However, the perpetrator/victim relationship did not relate to levels of depression, anxiety, or PTSD in participants. She also found hope and present perceived control were inversely related and statistically significant when measured against all three outcome measures (depression, anxiety, and PTSD), (Carretta, 2011). Carretta’s study shows how common psychological affects can be exacerbated in victims based on type of attack and specific coping strategies which may be important in examining my research results.
However, there is not any research on the effects specific to this type of rape in a college environment.

**Assessments for Effects of Acquaintance Rape**

The Sexual Assault Symptom Scale was created by Ruch, Gartell, Amedo, and Coyne (1991) as a self-report measurement to assess the after effects of sexual assault. It was originally constructed from interviews with women reporting to the emergency room over a two-year period. Ruch et al., (1991) used factor analysis to assess for a factor structure from their data. The factor analysis yielded four factors: a) disclosure shame, b) safety fears, c) depression, and d) self-blame.

The Sexual Assault Symptom Scale-II was created by adding items that would be pertinent in the case of long-term effects of sexual assault as opposed to immediate assault effects (Ruch & Wang, 2006). The first author of that study and a research team made up of psychologists, sociologists, and social workers developed new items.

**Victim-Perpetrator Interaction**

Numerous studies have been conducted studying the effects of sexual assault and rape on a woman based on the degree of her relationship with the perpetrator to mixed results (Feinstein, Humphreys, Bovin, Marx, & Resick, 2011; Lawyer, Ruggiero, Resnick, Kilpatrick, & Saunders, 2006; Sawtell, 2008; Ullman, Filipas, Townsend, Starzynski, 2006; Ullman & Siegel, 1993). However, there is very little in the existing literature about victims of rape who continue to interact with their rapist after the attack. This is of significance in the study of rape of college women because they could be in the presence of their attacker at any time, on any given day because of the insular environment of the college campus.
Ellis, Widmayer, and Palmer (2009) found that a portion of sexual assault victims had sex with their perpetrators at least one time after the initial assaultive incident. Ellis et al., (2009) examined data collected at 20 universities in the United States and two in Canada between 1988 and 1998. Their analysis utilized a sample of 7,817 women and 3,978 men recruited from introductory sociology and psychology classes. Participants completed a 10-page questionnaire where they were asked if they had ever been forced to have sex (or been a perpetrator in the same situation), and whether or not the attack was blocked or completed. If they reported a completed attack they were then asked if they continued to date or have sexual intercourse with their perpetrator after the initial assault. The results showed that 30% of women and 12% of men reported being sexually assaulted and that approximately 23% of both sexes continued to have sex with their perpetrator at least once after the initial attack (Ellis et al., 2009).

Murnen, Perot, and Byrne (1989) examined 130 women’s responses to unwanted sexual activity. They found that 76.4% of women had some degree of contact with the perpetrator of the unwanted sexual contact. Included in that statistic is the 11.1% of women who continued to date their perpetrator after the attack (Murnen et al., 1989). This confirms previous research by Wilson and Durrenberger (1982) who found that out of 447 surveyed women, 65 indicated being raped while in college, and 39% of those women continued to date their attacker after the assault. Littleton et al., (2009) found that unacknowledged victims of rape were more likely to continue a relationship with the perpetrator post-assault.

In a more recent study, Edwards et al., (2012) examined data of 254 college women who were sexually assaulted by someone they knew (either a friend, casual dating partner, or steady dating partner). The results of their study showed that 75% of the women continued to have a relationship with the perpetrator after the assault. Furthermore, relationships where a friend
assaulted the woman were more likely to remain stable after the assault than relationships where the perpetrator was a casual dating partner.

**Conclusion**

The goal of this study was to determine the differences in how the victim was affected based on the fact college campuses are insular environments, and that their experience was different from that of other rape victims. Additionally, a goal of the study was to assess for a relationship between Posttraumatic Stress Disorder, specific effects of rape, complex trauma, and post-attack victim-perpetrator interaction. The data may show there are significant differences in how rape victims are affected psychologically in their everyday environment because of their relationship to the perpetrator, and the possibility of victim-perpetrator interaction post-assault. The goal with this research was to differentiate these new found effects to devise better ways to help victims of rape through counseling. By better understanding what they are experiencing in the aftermath of such a traumatic and violating event, the hope is counselors will help victims of rape in general, and acquaintance rape in particular, in college counseling centers. The intention of the study is to begin to fill the gap in the literature about the specific effects of rape in the college environment.

Now that the integral concepts for the research have been described and how the study will assess for each one, Chapter 3 will cover the methodology of the research. In Chapter 3 there is a description of the study design including population, sampling procedures, and subjects. Each hypothesis will be outlined, and the instrumentation, variables, and statistical procedures that were utilized to test each one will be explained. The procedure of the study was then discussed, how it was disseminated to participants, and what the flow of participation looked like based on their responses.
CHAPTER 3: METHODOLOGY

Introduction

This chapter outlines the research design of the study, hypotheses, and participant recruitment including sample and subjects, as well as the instruments used in data collection and how data analysis was performed. Procedures for the study were designed to assess whether a relationship between various effects of rape within female college students exist.

Design

Because the sample of the study was specific, the study was a quasi-experimental design (Ary, Jacobs, & Sorensen, 2010). The purpose of this quasi-experimental, quantitative study was to determine whether there are effects of rape specific to women attending college. A second purpose of the study was to assess whether relationships existed between the effects of rape, Posttraumatic Stress Disorder, previous trauma, complex trauma, and post-attack victim-perpetrator interaction among college age females on a large, public university campus. The assessment battery included a demographic questionnaire, and questions about post-attack victim-perpetrator interaction.

Population, Sample, and Subjects

The study was conducted with female college students enrolled in school at a large, public university in the south. The potential sample size was approximately 8,400 female undergraduate women. Power analysis was conducted for each hypothesis listed below and a minimum sample size of 179 emerged for 80% statistical power on one-tailed tests with an alpha
level of .05. For participants to be included in the sample, they had to be female, ages 18-25, and currently enrolled in undergraduate course work. Nonprobability sampling called purposive sampling was used for the study because of the specific requirements to participate (Ary et al., 2010). This means, however, that the results may only be generalizable to the female, college student population attending a large, public university. The participants were recruited through a campus wide e-mail distributed through the registrar’s office to all undergraduate women on campus. The e-mail contained basic information about the study and provided the students with a link to the survey with an indication that if she clicked on the link, a respondent was giving her informed consent to continue. A copy of the e-mail participants received can be found in Appendix F. Within the survey, respondents were asked to verify their age (18 or older) and, if 18 or older, were taken to the survey questions. Prior to end of survey, participants were asked whether they wanted to be entered into a raffle for five $20 gift cards for their participation and/or receive a summary of the results.

Research Questions and Hypotheses

The overarching research question for the study was: What are the effects of rape, particularly AR, in college age women attending a four-year university? And are there relationships between the effects of rape, Posttraumatic Stress Disorder, previous trauma, complex trauma, and post-attack victim-perpetrator interaction. Each hypothesis is presented first as a null hypothesis and followed by the research hypothesis. The hypotheses derived from the research question are as follows:

$H_{01A}:$ There is not a significant relationship between whether college age women experienced rape since attending college and whether they met the PCL-5 threshold for PTSD diagnosis.
$H_{R1A}$: There is a significant relationship between whether college age women experienced rape since attending college and whether they met the PCL-5 threshold for PTSD diagnosis. In particular, college age women who experienced rape since attending college were more likely to meet the PCL-5 threshold for PTSD diagnosis.

$H_{01B}$: There is not a significant relationship between whether college age women experienced acquaintance rape since attending college and whether they met the PCL-5 threshold for PTSD diagnosis.

$H_{R1B}$: There is a significant relationship between whether college age women experienced acquaintance rape since attending college and whether they met the PCL-5 threshold for PTSD diagnosis. In particular, college age women who experienced rape since attending college were more likely to meet the PCL-5 threshold for PTSD diagnosis.

$H_{02A}$: For college age women who have experienced rape since attending college, there is no significant difference in mean PCL-5 score by PT status as indicated by the SLESQ-R.

$H_{R2A}$: For college age women who have experienced rape since attending college, there is a significant difference in mean PCL-5 score by PT status as indicated by the SLESQ-R. In particular, college age women who experienced rape since attending college and experienced PT will have a significantly higher mean score on the PCL-5.

$H_{02B}$: For college age women who have experienced acquaintance rape since attending college, there is no significant difference in mean PCL-5 score by PT status as indicated by the SLESQ-R.
H_{R2B}: For college age women who have experienced acquaintance rape since attending college, there is a significant difference in mean PCL-5 score by PT status as indicated by the SLESQ-R. In particular, college age women who experienced acquaintance rape since attending college and experienced PT will have a significantly higher mean score on the PCL-5.

H_{03A}: For college age women who have experienced rape since attending college, there is no significant difference in mean PCL-5 score by CT status as indicated by the SLESQ-R.

H_{R3A}: For college age women who have experienced rape since attending college, there is a significant difference in mean PCL-5 score by CT status as indicated by the SLESQ-R. In particular, college age women who experienced rape since attending college and experienced CT will have a significantly higher mean score on the PCL-5.

H_{03B}: For college age women who have experienced acquaintance rape since attending college, there is no significant difference in mean PCL-5 score by CT status as indicated by the SLESQ-R.

H_{R3B}: For college age women who have experienced acquaintance rape since attending college, there is a significant difference in mean PCL-5 score by CT status as indicated by the SLESQ-R. In particular, college age women who experienced acquaintance rape since attending college and experienced CT will have a significantly higher mean score on the PCL-5.

H_{04A}: For college age women who experienced rape since attending college and CT as indicated by the SLESQ-R, there is no significant difference in levels of rape.
H_{R4A}: For college age women who experienced rape since attending college and CT as indicated by the SLESQ-R, there is a significant difference in levels of rape. College women who have experienced rape and CT as indicated by the SLESQ-R will experience higher frequencies of rape.

H_{04B}: For college age women who experienced AR since attending college and CT as indicated by the SLESQ-R, there is no significant difference in levels of AR.

H_{R4B}: For college age women who experienced AR since attending college and CT as indicated by the SLESQ-R, there is a significant difference in levels of rape. College women who have experienced rape and CT as indicated by the SLESQ-R will experience higher frequencies of AR.

H_{05A}: For college age women who experienced rape since attending college, there is no significant difference in either mean PCL-5 score or mean SASS-II score by encounter status.

H_{R5A}: For college age women who experienced rape since attending college, there is a significant difference in either mean PCL-5 score or mean SASS-II score by encounter status. In particular, college women who have encountered their perpetrator since the attack will have higher mean scores on the PCL-5 and SASS-II.

H_{05B}: For college age women who experienced AR since attending college, there is no significant difference in either mean PCL-5 score or mean SASS-II score by encounter status.

H_{R5B}: For college age women who experienced AR since attending college, there is a significant difference in either mean PCL-5 score or mean SASS-II score by
encounter status. In particular, college women who have encountered their perpetrator since the attack will have higher mean scores on the PCL-5 and SASS-II.

$H_{06A}$: For college age women who experienced rape since attending college, there is no significant difference in mean number of lifestyle changes by encounter status.

$H_{R6A}$: For college age women who experienced rape since attending college, there is a significant difference in mean number of lifestyle changes by encounter status. In particular, college age women who encountered their perpetrator since the attack have a higher mean number of lifestyle changes.

$H_{06B}$: For college age women who experienced AR since attending college, there is no significant difference in mean number of lifestyle changes by encounter status.

$H_{R6B}$: For college age women who experienced AR since attending college, there is a significant difference in mean number of lifestyle changes by encounter status. In particular, college age women who encountered their perpetrator since the attack have a higher mean number of lifestyle changes.

**Instrumentation**

The study combined a demographic questionnaire, and a questionnaire about post-attack victim-perpetrator interaction and its effects with three other instruments. These assessments included the Sexual Assault Symptom Scale-II (Ruch & Wang, 2006), PTSD Checklist for DSM-5 (Weathers et al., 2013), and the Stressful Life Events Screening Questionnaire-Revised (Goodman et al., 1998).
Demographic Questionnaire and Author-Generated Questions

The first part of assessment for the study was a basic demographic questionnaire. The questionnaire asked the participants about their age, ethnicity, academic standing, location of residence, in how many hours they were enrolled, and whether they were affiliated with any Greek organization on campus. At the end of the demographic questionnaire there was an author-generated question on the incidence of rape, and a follow up question inquiring about the relationship with the perpetrator. A copy of the demographic questionnaire along with the rape incidence question can be found in Appendix A.

The victim-perpetrator interaction questions included basic questions regarding whether the participant has encountered her perpetrator since the attack and if so, where and what kind of contact they had. A copy of these questions can be found in Appendix D. The lifestyle change question can be found at the end of the SASS-II.

Sexual Assault Symptom Scale II (SASS-II).

The SASS-II consists of 31 statements answered on a Likert scale of 0 (not at all) to 4 (extremely). It covers various statements based on the seven factors outlined in factor analysis of the instrument that have been experienced in the last two weeks. The seven factors are: a) safety fears, b) self-blame, c) depression, d) anger and emotional liability, e) health fears, f) anger at the criminal justice system, and g) fears about the criminal justice system. A copy of the SASS-II is provided in Appendix B.

Administration and scoring. The SASS-II was administered online as a self-report instrument for the sake of confidentiality for the participants. It takes 10-15 minutes to complete. Total scores of sexual assault symptomatology will be computed for each participant.
Reliability and validity. The internal consistency of the four factors in the original study (Ruch et al, 1991) was confirmed with Chronbach’s alpha levels for each factor being .72 or above. More specifically, Chronbach’s alpha for disclosure shame was .83, for safety fears .81, for self-blame .80, and for depression .72. The overall internal consistency of the four factors together was .69. The researchers also correlated scores on the SASS with crisis worker reports to provide evidence of construct validity (Ruch et al., 1991).

The SASS-II was first analyzed using factor analysis and all items were required to load at a level of at least .50 as part of a longitudinal study (Ruch & Wang, 2006). Internal consistency expressed as Chronbach’s alpha was found to be above .90 for each of five different administrations at different times post-assault. To examine criterion validity, the subscale scores from the SASS-II were correlated to the same scores but from a previous assessment (e.g., self-blame scores at 3 months post-assault verses self-blame scores at 1 month post-assault). Scores for each subscale showed a positive correlation to scores from previous administrations where \( p < .01 \) in a one-tailed test (Ruch & Wang, 2006).

The researchers used the Clinical Trauma Assessment (CTA) to assess the construct validity of the SASS-II. They found high correlations between items on the CTA and items measuring similar constructs on the SASS-II. They showed discriminant validity with low correlations between different traits assessed by both instruments (Ruch & Wang, 2006).

Strengths and limitations. The SASS-II has not been utilized in many studies to date, which may be a limitation to this study, as it has not incurred such rigorous testing as some of the other instruments. However, it is a unique instrument in that it covers many questions that are not being assessed for in other sexual assault instruments.
PTSD Checklist for DSM-5 (PCL-5)

The PCL-5 is the most recent version of the Posttraumatic Stress Disorder Checklist that corresponds to the DSM-5 diagnostic criteria for PTSD. The PCL-5 is a 20-item self-report measure that assess for symptoms of PTSD in individuals and it takes 5-10 minutes to complete (Weathers et al., 2013). A copy of the PCL-5 can be found in Appendix C.

**Administration and scoring.** In order for a participant to endorse an item, the symptoms must have been present within the last month. The test items are scored on a 4-point Likert scale from 0 (*not at all*) to 4 (*extremely*). An item score of 2 or greater is considered to be symptom positive. For the purposes of this study, the PCL-5 was scored in two different ways. The first included the total symptom score. To obtain this score the sum of all items were added together. The range of scores here is 0-80. Based on preliminary validation work, a score of 38 will be used as a cutoff score (Weathers, et al., 2013).

**Reliability and validity.** This version of the PCL-5 is new and due to the 2013 publishing of the DSM-5, it has not been utilized in many studies to date. In a review of the new DSM-5 PTSD criteria and corresponding assessments, Weathers, Marx, Friedman, and Schnurr (2014) state that the new PCL-5 should provide the same utility as the PCL-IV, which has been used extensively and validated in many studies (McDonald & Calhoun, 2010; Orsillo, 2001; Wilkins, Lang, & Norman, 2011). The only significant changes that were made from the PCL-IV to the PCL-5 were wording changes based on the adjusted DSM-5 criteria (Weathers et al., 2013). Keane et al. (2014) confirmed the factor structure of the new DSM-5 criteria using the PCL-5 and provided proof of the temporal stability of the instrument.

**Strengths and weaknesses.** The weakness of the PCL-5 is that the version corresponding with the DSM-5 is a new version. It has not been used in many research studies to date. The
initial studies utilizing this instrument support its reliability and validity, and the past versions of the PCL have been used extensively in many areas of research relating to PTSD and were also rigorously tested for reliability and validity (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996; Freedy, Steenkamp, Magruder, Yeager, Zoller, Hueston, & Carek, 2010; Walker, Newman, Dobie, Ciechanowski, & Katon, 2002; Wilkins, Lang, & Norman, 2011). Internal consistency in the original instruments was 0.97 and test-retest reliability over 2-3 days was 0.96 (Norris & Hamblen, 2004).

**Stressful Life Events Screening Questionnaire-Revised (SLESQ-R)**

The SLESQ-R is a 13-item measure that can be used as an interview or a self-report measure. For the purposes of this study, it was used as a self-report measure to protect the confidentiality of the participants. It assesses for the lifetime exposure to traumatic events. The events listed are: a) life-threatening illness, b) life-threatening accident, c) robbery or mugging, d) loss of a loved one in an accident, homicide, or suicide e) forced intercourse, oral, or anal sex, f) attempted forced intercourse, oral, or anal sex, g) unwanted sexual touching, h) childhood physical abuse, i) domestic violence, j) threats with weapons, k) being present when another person was killed, injured or assaulted, and l) other frightening or horrifying event (Goodman et al., 1998). For the purposes of this study, the research only assessed for the incidence of previous trauma and complex trauma, and not the details of the incident, therefore, not all of the follow-up questions from the SLESQ-R were included. It is important to note that although the literature defines complex trauma as traumatic events incurred in childhood and adolescence, the SLESQ-R measures events across the lifespan (in the case of these participants, up to age 25). A copy of the questions that were used from the SLESQ-R can be found in Appendix E.
**Administration and scoring.** In most cases the SLESQ-R takes 10 minutes to administer; however, those with multiple previous traumatic experiences may take longer (Orsillo, 2001). It consists of 13 yes-or-no questions with follow up questions if the respondent indicates “yes.” The items then ask for frequency of occurrence of the traumatic event, how long ago the event(s) occurred, who or how many perpetrators there were, and how old the participant was when the event occurred (Goodman et al., 1998). For the purposes of this study, the researcher used the responses from the SLESQ as a frequency number to indicate the presence of previous trauma and/or complex trauma for each participant.

**Reliability and validity.** Goodman et al. (1998) were able to establish concurrent validity by comparing prevalence rates from the SLESQ to other measures of trauma prevalence with 202 participants. Prevalence rates were consistent on the SLESQ when compared with other instruments. The researchers also had participants return for a second administration of the SLESQ (n = 140) to gather more information on test-retest reliability. Goodman et al. (1998) found a correlation between two written administrations of $r = 0.89$. There was not a significant difference in the number of reported incidents from administration one to administration two. They also used an interview format for the second administration for some of the participants. The correlation between both administrations with the second interview condition was $r = 0.77$.

**Strengths and limitations.** Using the SLESQ-R as part of this study is a strength because it was originally designed for use with the college population (Goodman et al., 1998). However, there are limitations in what the participants endorsed because it is a self-report measure.
Procedures

The plan for the study was presented and approved by the dissertation committee on November 14, 2015. The Institutional Review Board of the university approved the study for the protection of human participants on November 26, 2015 (Protocol # 15x-125). The survey was designed to be anonymous and not collect any identifying information that would be kept with survey responses. The participants were provided with contact information for a list of on and off-campus resources should any distressing emotions or issues arise from their participation in the study. The resource list was included in the initial e-mail sent to potential participants, and at the termination of participation.

Cognitive Interview

During the prospectus defense, it was suggested by the committee that the researcher conduct a cognitive interview with an expert in the area to assess the clarity of the survey. Before the survey was distributed, the researcher contacted an individual who was identified to have experiences similar to those participants being sought out for the study to conduct a cognitive interview. The purpose of the cognitive interview was to ensure the questions in the survey were comprehended correctly and were easily understood by participants (Dillman, Smyth, & Christian, 2009). With the permission of the interview participant, the researcher audiotaped and took detailed notes of the cognitive interview. Changes were made to some author-generated questions to enhance the clarity of the survey.

Data Collection

All data collection was conducted electronically to ensure the confidentiality of participants considering the sensitive nature of the information. An e-mail was sent out to all female undergraduates at the university through the registrar’s office. Follow-up reminders were
not used. Qualtrics was utilized to ensure ease of participation and confidentiality. Participants used the link to the survey, which took them to the instruments listed previously. Data collection yielded a set of scores for each participant, several scores for each instrument, plus answers to the survey questions. The resource list was provided in the initial e-mail, and again at the termination of participation. Participants were reminded that their participation was voluntary and they could terminate their participation at any time. Figure 1 provides a flow of the participation matrix based answers to specific questions.
Figure 1. Participation Flow of the Online Survey
Data Analysis

The following section outlines each hypothesis for the study as well as the variables, levels, and statistical test to be used to analyze each one. The Statistical Package for the Social Sciences (SPSS) version 20.0 was used to analyze the data.

Research hypothesis 1A. There is a significant relationship between whether college age women experienced rape since attending college and whether they met the PCL-5 threshold for PTSD diagnosis. In particular, college age women who experienced rape since attending college were more likely to meet the PCL-5 threshold for PTSD diagnosis.

Variables and statistical methods. For H_{R1A}, the IV was rape status, a yes-or-no dichotomoy, which was categorical. The DV was PCL-5 threshold status, a yes-or-no dichotomy, which was categorical. Based on previous research, the cutoff score used was 38 (Weathers et al., 2013). Because there were two categorical variables with at least two levels each, H_{R1A} was analyzed using a Two-Way Chi-Square analysis (Ary et al., 2010).

Research hypothesis 1B. There is a significant relationship between whether college age women experienced acquaintance rape since attending college and whether they met the PCL-5 threshold for PTSD diagnosis. In particular, college age women who experienced acquaintance rape since attending college were more likely to meet the PCL-5 threshold for PTSD diagnosis.

Variables and statistical methods. For H_{R1B}, the IV was AR status, a yes-or-no dichotomoy, which was categorical. The DV was PCL-5 threshold status, also a yes-or-no dichotomy and categorical. Based on initial research, the cutoff score used was 38 (Weathers et al., 2013). Because there were two categorical variables with at least two levels each, H_{R1B} was analyzed using a Two-Way Chi-Square analysis (Ary et al., 2010).
**Research hypothesis 2A.** For college age women who have experienced rape since attending college, there is a significant difference in mean PCL-5 score by PT status as indicated by the SLESQ-R. In particular, college age women who experienced rape since attending college and experienced PT will have a significantly higher mean score on the PCL-5.

*Variables and statistical methods.* For $H_{R2A}$, the DV was PCL-5 total score, which was continuous. The IV was PT status, a yes-or-no dichotomy, which was categorical. The data select function was used to isolate participants who had experienced rape since attending college. To analyze $H_{R2A}$ an independent $t$ test was used to compare the means between groups (Tabachnick & Fidell, 2006).

**Research hypothesis 2B.** For college age women who have experienced acquaintance rape since attending college, there is a significant difference in mean PCL-5 score by PT status as indicated by the SLESQ-R. In particular, college age women who experienced acquaintance rape since attending college and experienced PT will have a significantly higher mean score on the PCL-5.

*Variables and statistical methods.* For $H_{R2B}$, the DV was PCL-5 total score, which was continuous. The IV was PT status, a yes-or-no dichotomy, which was categorical. The data select function was used to isolate the participants who had experienced AR since attending college. To analyze $H_{R2B}$ an independent $t$ test was used to compare the means between groups (Tabachnick & Fidell, 2006).

**Research hypothesis 3A.** For college age women who have experienced rape since attending college, there is a significant difference in mean PCL-5 score by CT status as indicated by the SLESQ-R. In particular, college age women who experienced rape since attending college and experienced CT will have a significantly higher mean score on the PCL-5.
Variables and statistical methods. For H_{R3A}, the DV was PCL-5 total score, which was continuous. The IV was CT status, a yes-or-no dichotomy, which was categorical. The data select function was used to isolate the participants who had experienced rape since attending college. To analyze H_{R2A} an independent t test was used to compare the means between groups (Tabachnick & Fidell, 2006).

Research hypothesis 3B. For college age women who have experienced acquaintance rape since attending college, there is a significant difference in mean PCL-5 score by CT status as indicated by the SLESQ-R. In particular, college age women who experienced acquaintance rape since attending college and experienced CT will have a significantly higher mean score on the PCL-5.

Variables and statistical methods. For H_{R3B}, the DV was PCL-5 total score, which was continuous. The IV was CT status, a yes-or-no dichotomy, which was categorical. The data select function was used to isolate the participants who had experienced AR since attending college. To analyze H_{R2B} an independent t test was used to compare the means between groups (Tabachnick & Fidell, 2006). Because there were two independent t tests run on this data, post hoc procedures were performed (Field, 2009).

Research hypothesis 4A. For college age women who experienced rape since attending college and CT as indicated by the SLESQ-R, there is a significant difference in levels of rape. College women who have experienced rape and CT as indicated by the SLESQ-R will experience higher frequencies of rape.

Variables and statistical methods. For H_{R4A}, the DV was levels of rape, where low equaled one rape since attending college, moderate equaled 2-4 rapes since attending college, and high equaled five or more rapes since attending college. Because these data are levels, the
DV is categorical. A One-Way Chi-Square was used to analyze $H_{RaA}$. A Two-way Chi-Square was not appropriate because the expected frequency counts did not meet 5 in all cells (Field, 2009).

**Research hypothesis 4B.** For college age women who experienced acquaintance rape since attending college and CT as indicated by the SLESQ-R, there is a significant difference in levels of acquaintance rape. College women who have experienced rape and CT as indicated by the SLESQ-R will experience higher frequencies of AR.

**Variables and statistical methods.** For $H_{RaB}$, the DV was levels of AR, where *low* equaled one acquaintance rape since attending college, *moderate* equaled 2-4 acquaintance rapes since attending college, and *high* equaled five or more acquaintance rapes since attending college. Because these data are levels, the DV is categorical. A One-Way Chi-Square was used to analyze $H_{RaA}$. A Two-way Chi-Square was not appropriate because the expected frequency counts did not meet 5 in all cells (Field, 2009).

**Research hypothesis 5A.** For college age women who experienced rape since attending college, there is a significant difference in either mean PCL-5 score or mean SASS-II score by encounter status. In particular, college women who have encountered their perpetrator since the attack will have higher mean scores on the PCL-5 and SASS-II.

**Variables and statistical methods.** For $H_{R5A}$, there were two continuous dependent variables, which were PCL-5 total score, and SASS-II total score. The IV was encounter status, a yes-or-no dichotomy, which was categorical. The data used for this hypothesis was from the rape group. Although an independent $t$ test would have sufficed, it would have increased the chances for a Type I error in the data. This meant the researcher would reject the null hypothesis when the null hypothesis was actually true. Therefore, a MANOVA was performed to assess for
differences between groups because there were multiple dependent variables (Tabachnick & Fidell, 2006). However, several of the required assumptions for MANOVA were not met (Field, 2009), and an independent t test and Pearson’s r correlation were computed to assess for differences in mean scores between groups, and the relationship between the two total scores. A Mann-Whitney test was computed after the initial independent t test because the homogeneity of variance assumption was not met (Field, 2009).

**Research Hypothesis 5B.** For college age women who experienced acquaintance rape since attending college, there is a significant difference in either mean PCL-5 score or mean SASS-II score by encounter status. In particular, college women who have encountered their perpetrator since the attack will have higher mean scores on the PCL-5 and SASS-II.

**Variables and statistical methods.** For H_{R5B}, there were two continuous dependent variables, which were PCL-5 total score, and SASS-II total score. The IV was encounter status, a yes-or-no dichotomy, which was categorical. The data used for this hypothesis was from the AR group. Although an independent t test would have sufficed, it would have increased the changes for a Type I error in the data. This meant the researcher would reject the null hypothesis when the null hypothesis was actually true. Therefore, a MANOVA was performed to assess for differences between groups because there were multiple dependent variables (Tabachnick & Fidell, 2006). However, several of the required assumptions for MANOVA were not met (Field, 2009), and an independent t test and Pearson’s r correlation were computed to assess for differences in mean scores between groups, and the relationship between the two total scores. Because there were two independent t tests run on this data, post hoc procedures were performed (Field, 2009).
**Research hypothesis 6A.** For college age women who experienced rape since attending college, there is a significant difference in mean number of lifestyle changes by encounter status. In particular, college age women who encountered their perpetrator since the attack have a higher mean number of lifestyle changes.

*Variables and statistical methods.* For $H_{R6A}$, the DV was the number of lifestyle changes the participants endorsed, which was continuous. The IV was encounter status, meaning whether or not the participant had encountered her perpetrator since the attack, which was categorical. The data for this hypothesis was collected from the rape group only. $H_{R6A}$ was examined using an independent $t$ test because the researcher was comparing means with a categorical independent variable and a continuous dependent variable (Tabachnick & Fidell, 2006).

**Research hypothesis 6B.** For college age women who experienced AR since attending college, there is a significant difference in mean number of lifestyle changes by encounter status. In particular, college age women who encountered their perpetrator since the attack have a higher mean number of lifestyle changes.

*Variables and statistical methods.* For $H_{R6B}$, the DV was the number of lifestyle changes the participants endorsed, which was continuous. The IV was encounter status, meaning whether or not the participant had encountered her perpetrator since the attack, which was categorical. The data for this hypothesis was collected from the AR group only. $H_{R6A}$ was examined using an independent $t$ test because the researcher was comparing means with a categorical independent variable and a continuous dependent variable (Tabachnick & Fidell, 2006). Because there were two independent $t$ tests run on this data, post hoc procedures were performed (Field, 2009).
Conclusion

Overall, these first 3 chapters provided an introduction and significance of the study, a review of the relevant literature on the major topics, and detailed methodology to carry out the study including data collection and analysis. The next section will cover the statistical results of the study and a detailed discussion and analysis of those results.
Chapter 4: RESULTS

Introduction

The study was designed to discover whether there are specific effects of female victims of rape attending college. The study assessed for incidences of rape, Posttraumatic Stress Disorder, previous trauma, complex trauma, and post-attack victim-perpetrator interaction in female college students. The survey was distributed to all of the female undergraduate students at a large, 4-year, public university in the south via e-mail from the registrar’s office (N \( \approx \) 8,400 students). A total of 523 female students either participated or attempted participation in the study. This number far surpassed the required number of participants (n = 179) for 80% statistical power at \( p = 0.05 \). The survey was live for six days. The survey was closed earlier than planned after it was determined that the participants’ data and their email addresses (for those who provided email addresses indicating desire to participate in raffle and/or receive summary results) were being stored in the same database. Because of this unforeseen situation, which is further discussed below, the survey was closed to participation after only six days. Following the closure, potential participants who clicked on the survey link received a “Survey Closed” message in which they were informed the survey was closed, thanked for their interest, and provided the same resource list that was provided in the initial e-mail, which was the same list participants who responded before the survey was closed saw once they completed the survey. Once the survey was closed, data screening was completed to eliminate data from participants who did not provide any useable data, or did not fit the inclusion criteria for the study. The
demographics of participants who met the inclusion criteria for the study are summarized in Table 1. Before discussing the demographics and other study results, more information is necessary on the early survey closure.

**Early Survey Closure**

After the survey was live for four days, the primary research advisor discovered the participants’ data was not being separated properly from their e-mail addresses. Participants who wanted to enter the survey raffle and/or receive the survey results voluntarily provided their email addresses, but were told their responses and email addresses would be maintained separately so as to preserve confidentiality, as the researcher intended. Unfortunately, the survey design mistakenly allowed the response data and email addresses to populate the same data file. Upon the discovery of the issue, which took place during the first weekend the survey was open, the primary research advisor contacted the Institutional Review Board (IRB) and also restricted the researcher’s access to the data. An incident report was filed with the IRB and a decision was made to close the survey early and direct anyone attempting to respond to survey after that point to the message described above, which included a listing of all the resources provided to those participants who completed the survey. Next, the primary research advisor downloaded the data and the e-mail addresses and separated the information into two files, such that the emails were separated from the responses. The email addresses were ordered alphabetically and once saved, could not be matched to the responses by anyone, including the primary research advisor or the researcher. The primary research advisor then deleted all responses in Qualtrics that were generated prior to steps taken to remedy the issue. The issue and remedy were discussed by the full IRB membership who determined the measures were sufficient and that the situation was
inadvertent. It is of note that the situation led the IRB to create a tutorial that will help researchers in the future not make the same error in survey design.

**Data Screening**

Prior to running the statistical analyses, a significant amount of data screening was necessary (Tabachnick & Fidell, 2006). The purpose of the data screening was to eliminate data of those who did not fit the inclusion criteria for the study, began the study but did not finish, and who saw the “Survey Closed” message and may have desired to participate but could not. As of February 28, 2015, including those who had participated in some fashion prior to the survey closing and those who continued to access the link after the survey closed, there were 523 reported participants (6.23% response rate). In terms of inclusion criteria, three participants were excluded because they were not at least 18 years of age. Another seven participants were otherwise outside the age limit (above age 25), and 16 began the survey but did not finish the demographic questions (and therefore did not have the opportunity to respond to any of the instruments). These participants’ data were deleted. It should be noted that as long as a participant reached and answered the question regarding rape incidence since attending college, the researcher included their data even if they discontinued their participation at some point later in the survey. Finally, there were 32 participants who only saw the “Survey Closed” message, but their information still had been imported into SPSS. These participants’ data also were deleted. Following all data cleaning, 463 participants (5.5% response rate) remained with usable data.

**Data Transformation and Column Creation.** The next step in the data screening was to examine the frequencies in the data sets and see whether any transformations were necessary. First, in order to analyze data according to the hypotheses, several “Total” columns were added.
Total columns were created for the PCL-5, SASS-II, and life changes. A yes or no column was added for participants who took the PCL-5 to indicate whether they met the threshold score of 38.

The main rape incidence question gave multiple answer choices including: a) friend, b) classmate, c) acquaintance, d) casual date, e) boyfriend, f) ex-boyfriend, g) stranger, h) family member, or i) other. Because the rape incidence question provided more choices than just acquaintances, and the hypotheses included parts or analyses that were AR specific, it was necessary to create another column indicating whether or not each participant had experienced AR. To accomplish this, the researcher used the By Whom columns where the participants indicated who had raped them since attending college. To define AR, the researcher used the DOJ definition provided in Chapter 1 under which AR includes anyone known to the victim prior to the attack. Therefore any participant who indicated she had been raped by anyone other than a stranger was considered a victim of AR.

The hypotheses also specified analyses that required knowing the number of times incidents of rape by each type of perpetrator occurred. Participants were asked to provide frequency information in text boxes related to each By Whom item. After considering the numbers indicated in the Occasions columns for the initial rape question, it became evident some of the entries could not be quantitatively evaluated. Thus, the decision was made to create Levels for incidents of rape and acquaintance rape. The number groupings used to determine levels were based on incident number choices provided by the SLESQ-R questions. Low included only one
previous incidents of rape, *Moderate* included 2-4 reported\(^1\) rapes, and any number 5 or above considered *High*. Once the levels were set, columns for *Rape Levels*, as well as *AR Levels*, were created.

Many of the demographic questions included an *Other, please specify* answer choice for which participants were provided a text box to use as necessary. Based on the text data provided in the demographic questions, the decision was made to add *Updated* columns to several questions so that the text answers could be re-classified without changing the original data. For example, some participants used the *Other, please specify* choice on the academic standing question to indicate they were a “5th year senior.” As this would still classify them academically as a senior, they were included in the senior classification in the *Updated Academic Standing* column. *Updated* columns were created for ethnicity, living situation, enrolled hours, and academic standing. This process of creating the *Updated* columns helped the researcher reclassify some of the data to make analysis more concise.

Lastly, two columns were created to indicate incidence and levels of PT and CT. PT was defined as any one previous traumatic experience, and CT as more than one previous traumatic experience. Columns designating the levels of PT and CT were created using the same SLESQ-R outlines for levels explained previously.

**Participant Characteristics (Sample)**

The final sample of participants (N = 463, response rate 5.5%) consisted of women, age 18-25 with a mean age of 20.13 years (SD = 1.537). The majority of the sample reported as Caucasian (81.2%), followed by Black or African American (12.5%), Asian (3.0%), Multi-racial

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\(^1\) The use of the word “reported” in this document is meant to reflect the participants’ endorsement of a certain item in the survey, not that the incident was reported to any official or legal agency.
(1.7%), Hispanic or Latino (1.3%), and Native Hawaiian or Other Pacific Islander (0.2%). The ethnic breakdown of study participants is very similar to the reported ethnicities of undergraduate women attending the university where the study was conducted, as cited in Chapter 1. A majority of participants reported living off-campus (61.3%) versus on-campus (38.7%). In terms of living situation, participants most often reported living with roommates (78%), followed by living alone (11.7%), and living with family and/or significant other (10.4%). The percentage of participants who were affiliated with a Greek organization on campus was less (43.6%) than those who were not affiliated with a Greek organization (56.4%). The distribution of participants among academic classifications was almost evenly divided with 23.5% freshmen, 23% sophomores, 26.1% juniors, and 26.8% seniors. One respondent (0.2%) reported academic status as “IEP”, meaning they were re-admitted to the university on academic probation, but no other information was known regarding academic classification. Finally, the majority of participants were enrolled in 15-18 hours of coursework (49.7%), followed by 9-15 hours (43.2%), 18+ hours (5.8%), and 3-6 hours (1.3%). Participant characteristics are reported in Table 1.
Table 1

*Participant Characteristics*

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>63</td>
<td>13.6</td>
</tr>
<tr>
<td>19</td>
<td>118</td>
<td>25.5</td>
</tr>
<tr>
<td>20</td>
<td>110</td>
<td>23.8</td>
</tr>
<tr>
<td>21</td>
<td>89</td>
<td>19.2</td>
</tr>
<tr>
<td>22</td>
<td>52</td>
<td>11.2</td>
</tr>
<tr>
<td>23</td>
<td>18</td>
<td>3.9</td>
</tr>
<tr>
<td>24</td>
<td>6</td>
<td>1.3</td>
</tr>
<tr>
<td>25</td>
<td>7</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black or African American</td>
<td>58</td>
<td>12.5</td>
</tr>
<tr>
<td>White</td>
<td>376</td>
<td>81.2</td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Native Hawaiian or Other Pacific Islander Asian</td>
<td>14</td>
<td>3.0</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>6</td>
<td>1.3</td>
</tr>
<tr>
<td>Multi-Racial</td>
<td>8</td>
<td>1.7</td>
</tr>
<tr>
<td><strong>Place of Residence</strong></td>
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<td></td>
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<tr>
<td>On-Campus</td>
<td>179</td>
<td>38.7</td>
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<tr>
<td>Off-Campus</td>
<td>284</td>
<td>61.3</td>
</tr>
<tr>
<td>Living Situation</td>
<td>n</td>
<td>Percent</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----</td>
<td>---------</td>
</tr>
<tr>
<td>Alone</td>
<td>54</td>
<td>11.7</td>
</tr>
<tr>
<td>With Roommates</td>
<td>361</td>
<td>78.0</td>
</tr>
<tr>
<td>With Family or Significant</td>
<td>48</td>
<td>10.4</td>
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<tr>
<td>Other</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Greek Affiliation</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>261</td>
<td>56.4</td>
</tr>
<tr>
<td>Yes</td>
<td>202</td>
<td>43.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Academic Standing</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>109</td>
<td>23.5</td>
</tr>
<tr>
<td>Sophomore</td>
<td>108</td>
<td>23.5</td>
</tr>
<tr>
<td>Junior</td>
<td>121</td>
<td>26.1</td>
</tr>
<tr>
<td>Senior</td>
<td>124</td>
<td>26.8</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>0.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hours Enrolled</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-6</td>
<td>6</td>
<td>1.3</td>
</tr>
<tr>
<td>9-15</td>
<td>200</td>
<td>43.2</td>
</tr>
<tr>
<td>15-18</td>
<td>230</td>
<td>49.7</td>
</tr>
<tr>
<td>18+</td>
<td>27</td>
<td>5.8</td>
</tr>
</tbody>
</table>

Data Analysis

Table 2 includes frequency information important to the understanding of the data as a whole, some of which was not required for any of the hypotheses. In response to the question inquiring whether participants had experienced rape since attending college, 16.2% (n = 75) of participants indicated they were a victim of rape since attending college, and 83.8% (n = 388) indicated they were not a victim of rape since attending college. Sixty-three of the 75 participants
who reported being raped since attending college were raped by someone they knew prior to the 
attack (84%), which as explained further below, classified that rape as acquaintance rape. In 
addition to asking participants whether they had been raped, a participant was asked to provide 
information on the relationship she had with the person by whom she had been raped. Thirty-six 
percent reported being raped by an acquaintance (n = 27), followed by friend (28%), stranger 
(25.3%), ex-boyfriend (24%), casual date (20%), classmate (9.3%), current boyfriend (8%),
family member (1.3%), and other (1.3%). This information is summarized in Table 2.

Table 2

*Important Frequencies*

<table>
<thead>
<tr>
<th>Important Information</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rape Incidences</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No rape</td>
<td>388</td>
<td>83.8</td>
</tr>
<tr>
<td>Yes rape</td>
<td>75</td>
<td>16.2</td>
</tr>
<tr>
<td><strong>Acquaintance Rape Incidences</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No AR</td>
<td>398</td>
<td>86.4</td>
</tr>
<tr>
<td>Yes AR</td>
<td>63</td>
<td>13.6</td>
</tr>
</tbody>
</table>
Research Hypothesis 1A

Research hypothesis 1A stated: There is a significant relationship between whether college age women experienced rape since attending college and whether they met the PTSD Checklist for DSM-5 (PCL-5) threshold for Posttraumatic Stress Disorder (PTSD) diagnosis. In particular, the researcher hypothesized that college age women who experienced rape since attending college would be more likely to meet the PTSD Checklist for DSM-5 (PCL-5)
threshold for Posttraumatic Stress Disorder (PTSD) diagnosis. The cutoff score for PTSD diagnosis on the PCL-5 was 38, and it assessed for symptoms in the last month. The IV for H_{R1A} was rape status (yes or no), and the DV was PCL-5 threshold status (yes or no). The crosstabulation table for the Two-Way Chi-Square analysis is found in Table 3. Note that although the data in Table 2 show that n = 75 participants answered the question of whether they were raped since attending college in the affirmative, not all 75 may have answered the PCL-5 items.

Table 3

*Crosstabulation table for Two-Way Chi-Square Analysis based on Rape Status*

<table>
<thead>
<tr>
<th>Incidence of Rape Since Attending College</th>
<th>Did the participant meet the cutoff score for PTSD diagnosis?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td>No Rape</td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>196.0</td>
</tr>
<tr>
<td>Expected Count</td>
<td>186.8</td>
</tr>
<tr>
<td>Standard Residual</td>
<td>0.70</td>
</tr>
<tr>
<td>Rape</td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>36.0</td>
</tr>
<tr>
<td>Expected Count</td>
<td>45.2</td>
</tr>
<tr>
<td>Standard Residual</td>
<td>-1.4</td>
</tr>
</tbody>
</table>

X^2 was significant at p = 0.000.

The X^2 statistic value (X^2 = 13.24) was significant (p = 0.000). Therefore, there was evidence of a significant relationship between rape status and meeting the PTSD threshold on the PCL-5. Upon further analysis using the standard residual, the one major contributor to the significant result was that there were more observed who were raped and met the threshold score
for PTSD on the PCL-5 than expected (R = 3.0, which is highlighted in Table 3), providing some support for the researcher’s particular hypothesis noted above. A major contributor is defined as a standard residual that is either greater than 2.00 or less than -2.00 (Hinkle et al., 2003).

**Research Hypothesis 1B**

Research hypothesis 1B stated: There is a significant relationship between whether college age women experienced acquaintance rape (AR) since attending college and whether they met the PTSD Checklist for DSM-5 (PCL-5) threshold for Posttraumatic Stress Disorder (PTSD) diagnosis. In particular, the researcher hypothesized that college age women who experienced acquaintance rape (AR) since attending college were more likely to meet the PTSD Checklist for DSM-5 (PCL-5) threshold for Posttraumatic Stress Disorder (PTSD) diagnosis. The cutoff score for PTSD diagnosis on the PCL-5 was 38, and it assessed for symptoms in the last month. The IV for $H_{R1B}$ was AR status (yes or no), and the DV was PCL-5 threshold status (yes or no). Note that this hypothesis only considers whether a participant indicated she was a victim/survivor of AR or not; thus, 10 participants who indicated they were raped but not by someone considered an acquaintance under the AR definition used in this study, were excluded from this analysis. The crosstabulation table for the Two-Way Chi-Square analysis is found in Table 4. Note that although the data in Table 2 show that $n = 63$ participants answered the question of whether they were raped since attending college in the affirmative, not all 63 may have answered the PCL-5 items.
Table 4

*Crosstabulation table for Two-Way Chi-Square Analysis Based on AR status*

<table>
<thead>
<tr>
<th>Incidence of Rape</th>
<th>Did the participant meet the cutoff score for PTSD diagnosis?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td>No Rape</td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>196.0</td>
</tr>
<tr>
<td>Expected Count</td>
<td>187.6</td>
</tr>
<tr>
<td>Standard Residual</td>
<td>0.60</td>
</tr>
<tr>
<td>Yes AR</td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>28.0</td>
</tr>
<tr>
<td>Expected Count</td>
<td>36.4</td>
</tr>
<tr>
<td>Standard Residual</td>
<td>-1.40</td>
</tr>
</tbody>
</table>

χ² was significant at p = 0.000.

The χ² statistic value (χ² = 13.26) was significant (p = 0.000). Therefore, similar to H₁₁ results, there was evidence of a significant relationship between AR status and meeting the PTSD threshold on the PCL-5. Upon further analysis using the standard residual, the one major contributor to the significant result was that there were more observed who experienced AR and met the threshold score for PTSD on the PCL-5 than expected (R = 3.0, which is highlighted in Table 4), providing some basis for the researcher’s particular hypothesis noted above. A major contributor is defined as a standard residual that is either greater than 2.00 or less that -2.00 (Hinkle et al., 2003).

**Research Hypothesis 2A**

Research hypothesis 2A stated: For college age women who have experienced rape since attending college, there is a significant difference in mean PTSD Checklist for DSM-5 (PCL-5) score by previous trauma (PT) status, as measured by the Stressful Life Events Screening
Questionnaire-Revised (SLESQ-R). In particular, the researcher was interested in determining whether college age women who experienced rape since attending college and also experienced previous trauma (PT) would have a significantly higher mean score on the PTSD Checklist for DSM-5 (PCL-5). By first selecting only those participants who indicated they had experienced rape since attending college, the intended statistical analysis was an independent t test where the DV was PCL-5 score and the IV was PT status (yes or no); therefore comparing the mean PCL-5 score for those who reported had experienced rape since attending college between those who also had experienced PT (n = 54) and those who had not (n = 1). Although the t test was computed, the n = 1 in the second group (no PT) led to results shown in Table 5 under which no difference would or could be shown (t = -0.595; p = .227 for one-tailed). Thus, there is no statistical evidence, due in part to the fact that all but one of the participants who indicated she had experienced rape since attending college also had not experienced PT, that the PT group would have a significantly higher mean score on PCL-5. It is of note, however that the mean score of those who reported PT was 30.76 and the score of the one participant who did not experience PT was 19.00. Recall the rape incident question was asked in the context of since attending college and PT in the context of incidents occurring over the course of the participants’ entire lives. Note that although the data in Table 2 indicated n = 75 participants reported being raped since attending college and n = 319 reported having experienced PT; this hypothesis only considers those who reached the PT questions and PCL-5 instrument items.
Table 5

*PCL-5 Score by PT for Rape Group*

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th></th>
<th>No</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>n</td>
<td>M</td>
</tr>
<tr>
<td><strong>PCL-5 Score</strong></td>
<td>30.76</td>
<td>19.58</td>
<td>54</td>
<td>19.00</td>
</tr>
</tbody>
</table>

*Results were non-significant at p = 0.277, one-tailed.

Research Hypothesis 2B

Research hypothesis 2B stated: For college age women who have experienced acquaintance rape (AR) since attending college, there is a significant difference in mean Post-traumatic Checklist-5 (PCL-5) score by previous trauma (PT) status, as indicated by the Stressful Life Events Screening Questionnaire-Revised (SLESQ-R). In particular, the researcher was interested in determining whether college age women who experienced acquaintance rape (AR) since attending college and also experienced previous trauma (PT) would have a significantly higher mean score on the PTSD Checklist for DSM-5 (PCL-5). As with H_{R1B}, this hypothesis excludes those participants who reported being raped since attending college, but indicated the perpetrator was not someone who fit under the AR definition used in this study. Thus, by first selecting only those participants who indicated they had experienced AR since attending college, the intended statistical analysis was an independent t test where the DV was PCL-5 score and the IV PT status (yes or no); therefore comparing the mean PCL-5 score for those who reported experiencing AR since attending college between those who also had experienced PT (n = 43) and those who had not (n = 1). Although the t test was computed, the n = 1 in the second group (no PT) led to results shown in Table 6 under which no difference would or could be shown (t = -0.676; p = .252 for one-tailed). Thus, there is no statistical evidence, due
in part to the fact that all but one of the participants who indicated she had experienced AR since attending college also had experienced PT, that the PT group would have a significantly higher mean score on PCL-5. It is of note, however that the mean score of those who reported PT was 32.26 and the score of the one participant who did not indicate experiencing PT was 19.00. As noted in discussion of H_{R2A}, recall the rape incident question was asked in the context of since attending college and PT in the context of the participants’ entire lives. Note that although the data in Table 2 indicated n = 63 participant reported being raped by someone fitting the AR definition used in this study since attending college and n = 319 reported having experienced PT, this hypothesis only considers those who reached the PT questions and PCL-5 instrument items.

Table 6

PCL-5 Score by PT for AR Group

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>PCL-5 Score</td>
<td>32.26</td>
<td>19.39</td>
</tr>
</tbody>
</table>

*Results were non-significant at p = 0.252, one-tailed.

Research Hypothesis 3A

Research hypothesis 3A stated: For college age women who have experienced rape since attending college, there is a significant difference in mean PTSD Checklist for DSM-5 (PCL-5) score by complex trauma (CT) status as indicated by the Stressful Life Events Screening Questionnaire-Revised (SLESQ-R). In particular, the researcher was interested in whether college age women who experienced rape since attending college and also experienced complex trauma (CT) would have a significantly higher mean score on the PTSD Checklist for DSM-5 (PCL-5). By first selecting only those participants who indicated they experienced rape since
attending college, the intended statistical analysis was an independent *t* test where the DV was PCL-5 score and the IV CT status (yes or no); therefore comparing the mean PCL-5 score for those who reported experiencing rape since attending college between those who also had experienced CT (*n* = 49) and those who had not (*n* = 5). For those who reported rape in the survey, as well as previous CT (*n* = 49), the mean PCL-5 score was 32.06 (SD = 19.85). For those who reported rape but and no history of CT (*n* = 5), the mean PCL-5 score was 18.00 (SD = 11.45). The independent *t* test (*t* = -2.403) revealed a one-tailed *p* value of 0.024. Thus, the null hypothesis (as stated in chapter 3) was rejected and evidence shown that participants who have experienced rape and previous CT have significantly higher scores on the PCL-5 indicating more symptoms of PTSD compared to those without previous CT. The Levene’s test revealed a significance of 0.077, which was greater than 0.05 (Field, 2009); therefore, the homogeneity of variance assumption was met. The results of the independent *t* test are found in Table 7. Note that although the data in Table 2 indicated *n* = 75 participant reported being raped since attending college and *n* = 243 reported having experienced CT; this hypothesis only considers those who reached the CT questions and PCL-5 instrument items.

Table 7

*PCL-5 Score by Previous CT for Rape Group*

<table>
<thead>
<tr>
<th>PCL-5 Score</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>32.06</td>
<td>18.00</td>
</tr>
<tr>
<td>SD</td>
<td>19.85</td>
<td>11.45</td>
</tr>
<tr>
<td>n</td>
<td>49</td>
<td>5</td>
</tr>
<tr>
<td><em>t</em></td>
<td>-2.403*</td>
<td>6.78</td>
</tr>
</tbody>
</table>

* Results were significant at *p* = 0.024, one-tailed.

Due to the fact that there were two independent *t* tests run on this data (one for the rape group and one for the AR group) it is important to consider post-hoc procedures. Because only a
small number of tests were computed repeatedly, a Bonferroni Correction is appropriate to control for Type I error (Field, 2009). With the significance level set at 0.05, the value of the Bonferroni correction would be 0.025. The results of H_{R3A} are still significant at \( p = 0.024 \).

**Research Hypothesis 3B**

Research hypothesis 3B stated: For college age women who have experienced acquaintance rape (AR) since attending college, there is a significant difference in mean PTSD Checklist for DSM-5 (PCL-5) score by complex trauma (CT) status as indicated by the Stressful Life Events Screening Questionnaire-Revised (SLESQ-R). In particular, the researcher was interested in whether college age women who experienced acquaintance rape (AR) since attending college and also experienced complex trauma (CT) would have a significantly higher mean score on the PTSD Checklist for DSM-5 (PCL-5). By first selecting only those participants who indicated they had experienced AR since attending college, the intended statistical analysis was an independent \( t \) test where the DV was PCL-5 score and the IV was CT status (yes or no); therefore comparing the mean PCL-5 score for those who reported experiencing AR since attending college between those who also had experienced CT (\( n = 40 \)) and those who had not (\( n = 3 \)). For those who reported rape in the survey, as well as previous CT (\( n = 40 \)), the mean PCL-5 score was 33.18 (SD = 19.54). For those who reported rape but and no history of CT (\( n = 3 \)), the mean PCL-5 score was 20.00 (SD = 14.53). The independent \( t \) test (\( t = -1.139 \)) revealed a one-tailed \( p \) value of 0.125. Thus, the null hypothesis (as stated in chapter 3) was not rejected and evidence not shown that participants who have experienced AR and previous CT have significantly higher scores on the PCL-5 indicating more symptoms of PTSD compared to those without previous CT. The Levene’s test revealed a significance of 0.252, which was greater than 0.05 (Field, 2009); therefore, the homogeneity of variance assumption was met. The results of
the independent \( t \) test are found in Table 8. Note that although the data in Table 2 indicated \( n = 63 \) participant reported being raped since attending college and \( n = 243 \) reported having experienced CT; this hypothesis only considers those who reached the CT questions and PCL-5 instrument items.

Table 8

*Results were non-significant at \( p = 0.125 \), one-tailed.

Research Hypothesis 4A

Research hypothesis 4A stated: For college age women who experienced rape since attending college and complex trauma (CT) as indicated by the Stressful Life Events Screening Questionnaire-Revised (SLESQ-R), there was a significant difference in levels of rape. In particular, the researcher wanted to determine whether college age women who have experienced rape since attending college who also experienced complex trauma (CT) as indicated by the Stressful Life Events Screening Questionnaire-Revised (SLESQ-R) will experience higher frequencies of rape. As described earlier in this chapter, the incident numbers were translated into levels (Low, Moderate, and High). For this hypothesis, the DV was level of rape and each participant fell into one category in the set, requiring a One-Way Chi-Square analysis (Hinkle et al., 2003). In this analysis, the Chi-Square statistic (\( \chi^2 = 11.375 \)) was significant (\( p = 0.003 \)). Based on the standardized residuals from the Chi-Square table, low levels of rape (\( R = 2.25 \), which is highlighted in Table 9) were observed more than expected, and high levels of rape (\( R =\)
2.50, which is highlighted in Table 9) were observed less than expected. A major contributor is defined as a standard residual that is either greater than 2.00 or less than -2.00 (Hinkle et al., 2003). Thus, for those who indicated had both experienced rape since attending college and CT, there is sufficient evidence of a significant difference in level of rape victimization. Results of the One-Way Chi-Square analysis are displayed in Table 9.

It is of note, however, that these One-Way Chi-Square results do not address the research hypothesis statement well, but in considering the frequencies presented in Table 9, nearly 50% of the participants considered for this hypothesis (23 out of the total of n = 48), which again were those who reported they had been raped since entering college and CT from childhood, were raped since attending college not just once, but multiple times.

Table 9

*Frequency Table for One-Way Chi-Square Analysis*

<table>
<thead>
<tr>
<th>Levels of Rape</th>
<th>Observed</th>
<th>Expected</th>
<th>Residual</th>
<th>Std. Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>25.0</td>
<td>16.0</td>
<td>9.00</td>
<td>2.25</td>
</tr>
<tr>
<td>Moderate</td>
<td>17.0</td>
<td>16.0</td>
<td>1.00</td>
<td>0.25</td>
</tr>
<tr>
<td>High</td>
<td>6.00</td>
<td>16.0</td>
<td>-10.0</td>
<td>2.50</td>
</tr>
<tr>
<td>Total</td>
<td>48.0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\( \chi^2 \) was significant at \( p = 0.003 \)

**Research Hypothesis 4B**

Research Hypothesis 4B stated: For college age women who experienced acquaintance rape (AR) since attending college and complex trauma (CT) as indicated by the Stressful Life Events Screening Questionnaire-Revised (SLESQ-R), there was a significant difference in levels of acquaintance rape. In particular, the researcher wanted to determine whether college age
women who have experienced acquaintance rape (AR) since attending college who also experienced complex trauma (CT) as indicated by the Stressful Life Events Screening Questionnaire-Revised (SLESQ-R) will experience higher frequencies of acquaintance rape (AR). As described earlier in this chapter, the incident numbers were translated into levels (Low, Moderate, and High). For this hypothesis, the DV was level of AR and each participant fell into one category in the set, requiring a One-Way Chi-Square analysis (Hinkle et al., 2003). In this analysis, the Chi-Square statistic \( \chi^2 = 11.231 \) was significant \( (p = 0.004) \). Based on the standardized residuals from the Chi-Square table, low levels of AR \((R = 2.50, \text{which is highlighted in Table 10})\) were observed more than expected, and high levels of AR \((R = 2.22, \text{which is highlighted in Table 10})\) were observed less than expected. A major contributor is defined as a standard residual that is either greater than 2.00 or less that -2.00 (Hinkle et al., 2003). Thus, for those who indicated had both experienced AR since attending college and CT, there is sufficient evidence of a significant difference in level of rape victimization. Results of the One-Way Chi-Square analysis are displayed in Table 10.

It is of note, however, that these One-Way Chi-Square results do not address the research hypothesis statement well, but in considering the frequencies presented in Table 10, nearly 45% of the participants considered for this hypothesis (17 out of the total of n = 39), which again were those who reported they had been raped by a perpetrator fitting the AR rape definition used in this study since entering college and previous CT, were raped by someone fitting the AR definition since attending college not just once, but multiple times.
Table 10

*Frequency Table for One-Way Chi-Square Analysis*

<table>
<thead>
<tr>
<th>Levels of Rape</th>
<th>Observed</th>
<th>Expected</th>
<th>Residual</th>
<th>Std. Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>22.0</td>
<td>13.0</td>
<td>9.00</td>
<td>2.50</td>
</tr>
<tr>
<td>Moderate</td>
<td>12.0</td>
<td>13.0</td>
<td>-1.00</td>
<td>0.28</td>
</tr>
<tr>
<td>High</td>
<td>5.00</td>
<td>13.0</td>
<td>-8.00</td>
<td>2.22</td>
</tr>
<tr>
<td>Total</td>
<td>39.0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(X_2^2\) was significant at \(p = 0.004\)

**Research Hypothesis 5A**

Research hypothesis 5A stated: For college age women who experienced rape since attending college, there is a significant difference in either mean PTSD Checklist for DSM-5 (PCL-5) score or mean Sexual Assault Symptom Scale-II (SASS-II) score by encounter status. In particular, the researcher wanted to determine whether college age women who have encountered their perpetrator since the attack will have higher mean scores on the PTSD Checklist for DSM-5 (PCL-5) and Sexual Assault Symptom Scale-II (SASS-II) than those who have not encountered their perpetrator. For \(H_{5A}\), the dependent variables were PCL-5 total score and SASS-II total score, both continuous. The IV was encounter status (yes/no). Initially, a MANOVA was used to assess for differences between groups because there were multiple DVs.

Before conducting the MANOVA, the first step was to check the assumptions of the test. The assumptions for MANOVA are: a) independence, b) random sampling, c) multivariate normality, and d) homogeneity of covariance (Field, 2009). Although each observation for the study was statistically independent, the researcher cannot ensure that participants did not collaborate while taking the survey, which could violate the assumption of independence.
Random sampling also cannot be ensured because the data was assessed from a specific population. To assess for multivariate normality, the researcher used two methods: a) boxplots to detect outliers, and b) Shapiro-Wilk’s test due to the small sample size. The box plots from the data for $H_{R5A}$ showed two outliers, one of which was extreme. In reviewing the scores for the one participant whose scores were extreme on both the PCL-5 and SASS-II, it was evident she had endured extreme incidents and levels of trauma and PTSD and thus her data were valid and should not be excluded from the analysis. In continuing the assessment of multivariate normality, the SASS-II Total score was not normally distributed ($\Lambda = .000$). Further, the PCL-5 total scores and SASS-II total scores were highly positively correlated ($r = 0.888$) for the rape group. This implies intercorrelation between dependent variables, which can negatively affect the statistical power of the test (Field, 2009).

Table 11 displays the PCL-5 total score and SASS-II total score statistics for the rape group (those who indicated were raped since attending college). Twenty-two (34.4%) participants did not report encountering their perpetrator since the attack, and 42 (65.6%) of participants had encountered their perpetrator since the attack. Even though there were violations to the normality assumption, at that point, it was still possible to compute the MANOVA (Field, 2009). The next step was to assess for homogeneity of covariance using Levene’s Test of Equality of Variances and Box’s Test of Equality of Covariance Matrices (Field, 2009). Using Levene’s Test, significance levels were calculated. The Levene’s result for The PCL-5 Total was found to be significant ($p = .040$), which violates the homogeneity of variances assumption. However, Box’s Test of Equality of Covariance Matrices was non-significant ($p = .511$). Based on the fact that several of the assumptions were violated, the researcher concluded that MANOVA was not an appropriate test for this hypothesis (Field, 2009).
Due to the violations in assumptions for the MANOVA, the researcher used SPSS to compute an independent *t* test to assess for a relationship between PCL-5 Total and SASS-II total scores based on encounter status for the rape group. The independent *t* test for the PCL-5 based on encounter status was found to be significant (*p* = .014) where participants who had been raped since attending college and had encountered their perpetrator since the attack averaged significantly higher scores (M = 54.03, SD = 20.07), compared with those who had not encountered their perpetrator (M = 41.27, SD = 14.57). The results of the *t* test can be found in Table 12. However, the Levene’s statistic computed in the independent *t* test was not significant (*p* = .022) which violates the homogeneity of variance assumption (Field, 2009). The researcher then used the Mann-Whitney test to verify the result, because it is the non-parametric equivalent to the independent *t* test (Field, 2009). PCL-5 scores for participants who had encountered their perpetrator since the attack (mean rank = 30.91) were statistically significantly higher than those participants who had not encountered their perpetrator since the attack (mean rank = 20.23), *U* = 183.50, *z* = -2.203, *p* = .028. This data confirms the statistically significant relationship between PCL-5 score and encounter status.

An independent *t* test was computed comparing the SASS-II total score and encounter status. Participants who reported being raped since attending college and encountering their
perpetrator since the attack \((M = 70.83, \text{SD} = 26.11)\) scored higher than participants who had not encountered their perpetrator since the attack \((M = 62.19, \text{SD} = 25.61)\). The results of the test were non-significant \((p = .217)\), however, and the researcher failed to reject the null hypothesis indicating there is not sufficient evidence of a significant difference in mean scores on the SASS-II based on encounter status for the rape group. Results of this \(t\) test are presented in Table 12.

Table 12

\[
PCL-5 Score and SASS-II Score by Encounter Status for Rape Group
\]

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>n</td>
</tr>
<tr>
<td>PCL-5</td>
<td>54.03</td>
<td>20.07</td>
<td>40</td>
<td>41.27</td>
<td>14.57</td>
<td>15</td>
</tr>
<tr>
<td>SASS-II</td>
<td>70.83</td>
<td>26.11</td>
<td>42</td>
<td>62.19</td>
<td>25.61</td>
<td>21</td>
</tr>
</tbody>
</table>

\[
\begin{align*}
\text{*Results were significant at } p &= .007, \text{ one-tailed} \\
\text{**Results were non-significant at } p &= .11 \\
\end{align*}
\]

Due to the fact that there were two independent \(t\) tests run on this data (one for the PCL-5 and one for the SASS-II) it is important to consider post-hoc procedures. Because only a small number of tests were computed repeatedly, a Bonferroni Correction was appropriate to control for Type I error (Field, 2009). With the significance level set at 0.05, the value of the Bonferroni correction was 0.025. The results of \(H_{RSA}\) were still significant for the PCL-5 at \(p = 0.007\).

**Research Hypothesis 5B**

Research hypothesis 5B stated: For college age women who experienced acquaintance rape \((AR)\) since attending college, there is a significant difference in either mean PTSD Checklist for DSM-5 \((PCL-5)\) score or mean Sexual Assault Symptom Scale-II \((SASS-II)\) score by encounter status. In particular, the researcher wanted to determine whether college age women who have encountered their perpetrator since the attack will have higher mean scores on
the PTSD Checklist for DSM-5 (PCL-5) and Sexual Assault Symptom Scale-II (SASS-II) than those who have not encountered their perpetrator. For H_{R5B}, the dependent variables were PCL-5 total score and SASS-II total score, both continuous. The IV was encounter status (yes/no). Initially, a MANOVA was used to assess for differences between groups because there were multiple DVs.

Before conducting the MANOVA, the first step was to check the assumptions of the test. The assumptions for MANOVA are: a) independence, b) random sampling, c) multivariate normality, and d) homogeneity of covariance (Field, 2009). Although each observation for the study was statistically independent, the researcher cannot ensure that participants did not collaborate while taking the survey, which could violate the assumption of independence. Random sampling also cannot be ensured because the data was assessed from a specific population. To assess for multivariate normality, the researcher used two methods: a) boxplots to detect outliers, and b) Shapiro-Wilk’s test due to the small sample size. The box plots from the data for H_{R5B} showed the same two outliers, one of which was extreme. In reviewing the scores for the one participant whose scores were extreme on both the PCL-5 and SASS-II, it was evident she had endured extreme incidents and levels of trauma and PTSD and thus her data were valid and should not be excluded from the analysis. In continuing the assessment of multivariate normality, the SASS-II Total score was not normally distributed (Λ = .000). Further, the PCL-5 total scores and SASS-II total scores were highly positively correlated (r = 0.898) for the AR group. This implies intercorrelation between dependent variables, which can negatively affect the statistical power of the test (Field, 2009). Table 13 displays the PCL-5 and SASS-II total score statistics for the AR group.
Table 13

Statistics for AR Group

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>n</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCL-5 Total</td>
<td>31.95</td>
<td>19.27</td>
<td>44</td>
<td>.471</td>
<td>-.809</td>
</tr>
<tr>
<td>SASS-II Total</td>
<td>37.24</td>
<td>27.08</td>
<td>55</td>
<td>.820</td>
<td>.109</td>
</tr>
</tbody>
</table>

Even though there were violations to the normality assumption, it is still possible to compute the MANOVA (Field, 2009). The next step was to assess for homogeneity of covariance using Levene’s Test of Equality of Variances and Box’s Test of Equality of Covariance Matrices (Field, 2009). Using Levene’s Test, significance levels were calculated. For both the PCL-5 total and SASS-II total scores were found to be non-significant ($p = .071$, $p = .231$, respectively), and Box’s Test for Equality of Covariance Matrices was non-significant ($p = .489$) for the AR group. Based on the fact that several of the assumptions were violated, the researcher concluded that MANOVA was not an appropriate test for this hypothesis (Field, 2009).

Due to the violations in assumptions for the MANOVA, the researcher used SPSS to compute an independent $t$ test to assess for a relationship between PCL-5 Total and SASS-II total scores based on encounter status for the AR group. The independent $t$ test for the PCL-5 based on encounter status was not found to be significant ($p = .179$) and participants who encountered their perpetrator since the attack averaged higher scores (M = 34.09, SD = 19.99), compared with those who had not encountered their perpetrator (M = 24.70, SD = 15.21). The results of the $t$ test can be found in Table 14. The Levene’s statistic computed in the independent $t$ test was
significant \((p = .071)\) which does not violate the homogeneity of variance assumption (Field, 2009).

An independent \(t\) test was computed comparing the SASS-II total score and encounter status for the AR group. Participants who had encountered their perpetrator since the attack \((M = 40.06, SD = 26.89)\) scored higher than participants who had not encountered their perpetrator since the attack \((M = 35.65, SD = 26.44)\). The results of the test were non-significant \((p = .578)\) and therefore the researcher failed to reject the null hypothesis and there is not sufficient evidence of a significant difference in mean scores on the SASS-II based on encounter status for the AR group. Results of this \(t\) test are presented in Table 14.

Table 14

\(PCL-5\) Score and SASS-II Score by Encounter Status for AR Group

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>n</td>
</tr>
<tr>
<td>PCL-5</td>
<td>34.09</td>
<td>19.99</td>
<td>34</td>
</tr>
<tr>
<td>SASS-II</td>
<td>40.06</td>
<td>26.89</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>n</td>
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<td></td>
<td>24.70</td>
<td>15.21</td>
<td>10</td>
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<tr>
<td></td>
<td>35.65</td>
<td>26.44</td>
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<td></td>
<td>-1.368*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.560**</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>51</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Results were non-significant at \(p = .179\)

**Results were non-significant at \(p = .578\)

Research Hypothesis 6A

Research hypothesis 6A stated: For college age women who experienced rape since attending college, there is a significant difference in mean number of lifestyle changes by encounter status. In particular, the researcher wanted to determine whether college age women who encountered their perpetrator since the attack have a higher mean number of lifestyle changes. For \(H_{6A}\) the IV was encounter status (yes/no), and the DV was the number of lifestyle changes for the rape group. To examine this statement the researcher used an independent \(t\) test.
There were eight possible life changes participants could endorse in a *Check All That Apply* question. *Experienced an unwillingness to go certain places* was endorsed most often (*n* = 42), followed by *Experienced changes in friendships or other relationships* (*n* = 32), *Sought counseling* (*n* = 23), *Changed residences* (*n* = 17), *Dropped a class or classes* (*n* = 15), *Changed majors* (*n* = 11), *Other Change* (*n* = 7), and *Changed jobs* (*n* = 6). Two of the answer choices (*Experienced changes in friendships or other relationships* and *Other change*) provided text boxes for participants to use to elaborate if they wished to do so. Nineteen of the participants who checked the *Experienced changes in friendships or other relationships* box chose to enter descriptive text. Common themes from those responses included: a) losing friends, especially those who were mutual friends with their perpetrator, b) experienced strained friendships, and c) lost or gained significant others. Seven participants who checked the *Other Change* box chose to enter descriptive text. Those participants cited the following changes: a) using alcohol or drugs more frequently, b) engaging in risky sexual behavior, c) drinking alcohol less, d) rarely going anywhere alone, e) not being able to enjoy themselves in social situations, f) more cautious around men in general, g) paying more attention to their drink when out at a bar or fraternity house.

Based on the independent *t* test results (*t* = 2.248), participants who indicated they were a victim of rape and encountered their perpetrator since the attack (*n* = 38) endorsed significantly more life change items (*M* = 3.00, *SD* = 1.59) compared with those who had not encountered their perpetrator since the attack (*n* = 19), who endorsed a mean of 1.95 lifestyle changes (*SD* = 1.43). The one-tailed significance reported for this test was 0.009. The Levene’s Test had a significance of 0.199, which meets the requirements for the homogeneity of variance assumption. Therefore, there is sufficient evidence that encountering one’s perpetrator since a
rape significantly increases the number of lifestyle changes in which the victim will engage. The results of this test are presented in Table 15.

Due to the fact that there were two independent \( t \) tests run on this data (one for the rape group and one for the AR group) it is important to consider post-hoc procedures. Because only a small number of tests were computed repeatedly, a Bonferroni Correction is appropriate to control for Type I error (Field, 2009). With the significance level set at 0.05, the value of the Bonferroni correction would be 0.025. The results of \( \text{H}_{R6A} \) are still significant at \( p = 0.009 \).

Table 15

*Results are significant at \( p = .009 \), one-tailed.

**Research Hypothesis 6B**

Research hypothesis 6B stated: For college age women who experienced AR since attending college, there is a significant difference in mean number of lifestyle changes by encounter status. In particular, the researcher was interested in determining whether college age women who encountered their perpetrator since the attack have a higher mean number of lifestyle changes. The DV for \( \text{H}_{R6B} \) was number of lifestyle changes, which was continuous, and the IV was encounter status (yes/no), which was categorical. To examine this statement the researcher used an independent \( t \) test. There were eight possible life changes participants could endorse in a Check All That Apply question. Experienced an unwillingness to go certain places was endorsed most often (\( n = 35 \)), followed by Experienced changes in friendships or other
relationships ($n = 27$), Sought counseling ($n = 21$), Changed residences ($n = 15$), Dropped a class or classes ($n = 15$), Changed majors ($n = 11$), Other Change ($n = 7$), and Changed jobs ($n = 5$).

The results of the independent $t$ test ($t = -2.394$) showed participants who indicated being a victim of AR and encountering their perpetrator since the attack ($n = 32$) endorsed significantly more lifestyle change items ($M = 3.2, SD = 1.52$) compared with those who had not encountered their perpetrator since the attack ($n = 15$) who endorsed a mean of 2.1 lifestyle changes ($SD = 1.58$). The one-tailed significance reported for this test was $p = .011$. The Levene’s Test significance was 0.562, indicating the homogeneity of variance assumption was met. Therefore, there is sufficient evidence that encountering one’s perpetrator since an acquaintance rape significantly increases the number of lifestyle changes the victim will endure. The results of this test are found in Table 16.

Due to the fact that there were two independent $t$ tests run on this data (one for the rape group and one for the AR group) it is important to consider post-hoc procedures. Because only a small number of tests were computed repeatedly, a Bonferroni Correction is appropriate to control for Type I error (Field, 2009). With the significance level set at 0.05, the value of the Bonferroni correction would be 0.025. The results of $H_{R6B}$ are still significant at $p = 0.011$.

Table 16

<table>
<thead>
<tr>
<th>Life Changes for Acquaintance Rape Group by Encounter Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>M</td>
</tr>
<tr>
<td>Life Changes</td>
</tr>
</tbody>
</table>

*Results are significant at $p = .011$, one-tailed.
Conclusion

Chapter 4 first covered the survey dissemination, early closure, and data screening. Then, the results of the hypotheses were presented, using 463 participants. The current research showed that participants raped by an acquaintance were more likely to meet the threshold score for PTSD on the PCL-5. Results also indicated that victims of rape while in college with history of CT had higher PTSD symptomatology based on their PCL-5 score. Encounter status had a significant effect on lifestyle changes in rape victims PCL-5 scores, and an increase in lifestyle changes. The results will be further discussed in Chapter 5, as will limitations of the study and implications for future research.
Chapter 5: DISCUSSION

Introduction

The overall purpose of the study was to assess for effects of rape specific to women attending college. A secondary purpose was to examine relationships between the effects of rape, Posttraumatic Stress Disorder, previous trauma, complex trauma, and post-attack victim-perpetrator interaction. The survey was sent to all female students on the main campus of a large, public university in the south (N = 8,400) and 463 women participated in the survey (5.5% response rate). The majority of women who participated were between the ages of 18 and 22, Caucasian, lived off-campus with roommates, and were enrolled in between 9 and 18 hours of classes. The breakdown in academic standing was almost equal between all four years. Fewer women reported being a member of a Greek organization on campus than those that did report being a member of a Greek organization on campus. Chapter 5 will cover an examination of the data collected in the survey broken down by individual hypothesis, the limitations of the study, and the implications for future research.

Examination of Results

The majority of participants reported not having experienced any type of rape since attending college (83.3%), whereas 16.2% of participants endorsed being a victim of rape since attending college. This number is higher than the percentage of rape (11.5%) reported in the CSA study (Krebs et al., 2007). The data from the current study supports data from Messman-Moore and Brown’s (2006) study with college women. They found that since attending college,
13.9% of participants had been victims of rape, and another 9.9% experienced at least one rape over the course of the study (one academic year). Wilson and Durrenberger (1982) reported a similar figure in that 65 of the 447 women who participated in their study (14.5%) reported being raped in college. Eighty-four percent of those women reported knowing the perpetrator prior to the rape. This number is only slightly less than the 90% of victims who reported knowing their attackers in the DOJ (2000) study “The Sexual Victimization of College Women.” Sinozich and Langton (2014) reported similar statistics in their special report on rape and sexual victimization among college females from 1995-2013. They found that about 80% of college women who were rape victims knew their attackers.

**Research Hypothesis 1A**

Research hypothesis 1A stated: There is a significant relationship between whether college age women experienced rape since attending college and whether they met the PCL-5 threshold for PTSD diagnosis. In particular, the researcher hypothesized that college age women who experienced rape since attending college would be more likely to meet the PCL-5 threshold for PTSD diagnosis. Using a Two-Way Chi-Square analysis, there was evidence of a significant relationship between rape status, and meeting the PTSD threshold on the PCL-5. The test revealed one major contributor: there were more participants who were raped and met the PTSD threshold score on the PCL-5 than expected. These findings support Kilpatrick et al., (1989) who identified 80% of participants who were rape victims were affected by PTSD. The findings from the current research add to a line of research started by Carretta (2011) where she examined type of rape and levels of depression and PTSD.
**Research Hypothesis 1B**

Research hypothesis 1B stated: There is a significant relationship between whether college age women experienced acquaintance rape since attending college and whether they met the PCL-5 threshold for PTSD diagnosis. In particular, the researcher hypothesized that college age women who experienced acquaintance rape since attending college were more likely to meet the PCL-5 threshold for PTSD diagnosis. Using a Two-Way Chi-Square analysis, there was evidence of a significant relationship between AR status and meeting the PTSD threshold on the PCL-5. There was also a major contributor in this analysis. There were more observed participants who had experienced AR and met the PTSD threshold on the PCL-5 than expected. This supports Lawyer et al.’s (2006) finding that those who are raped by non-strangers report higher levels of PTSD. They found the mean score for participants raped by strangers (M = 25.5, SD = 21.15) was less than those raped by acquaintances (M = 31.96, SD = 19.47) meaning they showed more severe symptoms of PTSD.

**Research Hypothesis 2A**

Research hypothesis 2A stated: For college age women who have experienced rape since attending college, there is a significant difference in mean PCL-5 score by PT status as indicated by the SLESQ-R. In particular, the researcher was interested in determining whether college age women who experienced rape since attending college and also experienced PT would have a significantly higher mean score on the PCL-5. Seventy-two percent of participants reported some type of PT, and 74.5% of participants reported previous CT. The percentage of previous CT reported in the study is comparable to exposure to CT (78%) reported in Spinazzola et al. (2003). Thirty-six percent of participants in Gibson and Leitenberg’s 2001 study, who reported sexual assault in the last year, had also been victims of some type of child abuse.
H_{R2A} used an independent \( t \) test to compare means on the PCL-5 between participants who were victims of rape by PT status. The independent \( t \) test compared means on the PCL-5 for the rape group based on PT history. As mentioned in Chapter 4, there was only one participant who reported being raped since attending college and not having experienced PT. It is worth noting that participants’ score on the PCL-5 was 19.00, and the average mean score of participants who reported PT was much higher (\( M = 30.76 \)). Although SPSS computed the independent \( t \) test, with only one participant in the “No PT” group, the results are essentially invalid. Additionally, the results of the \( t \) test were non-significant. Therefore, there was not sufficient evidence that victims of rape while attending college with PT had significantly higher scores on the PCL-5 than participants without PT.

**Research Hypothesis 2B**

Research hypothesis 2B stated: For college age women who have experienced acquaintance rape since attending college, there is a significant difference in mean PCL-5 score by PT status as indicated by the SLESQ-R. In particular, the researcher was interested in determining whether college age women who experienced AR since attending college and experienced PT would have a significantly higher mean score on the PCL-5. \( H_{R2B} \) used an independent \( t \) test to compare means on the PCL-5 of participants who were victims of AR by PT status. As mentioned in \( H_{R2A} \), there was only one participant who experienced AR and did not report PT, which essentially invalidates the results of the test. Additionally, the results were non-significant. Therefore, there was not sufficient evidence that victims of AR while attending college with PT had significantly higher scores on the PCL-5 than participants without PT.
Research Hypothesis 3A

Research hypothesis 3A stated: For college age women who have experienced rape since attending college, there is a significant difference in mean PCL-5 score by CT status as indicated by the SLESQ-R. In particular, the researcher was interested in whether college age women who experienced rape since attending college and experienced CT would have a significantly higher mean score on the PCL-5. The independent $t$ test compared means on the PCL-5 for the rape group based on CT history. The results were significant ($p = 0.024$, one-tailed). Therefore, there was sufficient evidence that victims of rape while attending college with CT history had significantly higher scores on the PCL-5 than participants without CT history. This means that women in college who have previous CT report more symptoms of PTSD than those without a CT history. This supports previous research, which shows that PTSD is a serious effect of CT (Cook et al., 2003; Duckworth & Follette, 2011).

Research Hypothesis 3B

Research hypothesis 3B stated: For college age women who have experienced acquaintance rape since attending college, there is a significant difference in mean PCL-5 score by CT status as indicated by the SLESQ-R. In particular, the researcher was interested in whether college age women who experienced acquaintance rape since attending college and experienced CT would have a significantly higher mean score on the PCL-5. The independent $t$ test compared means on the PCL-5 for the AR group based on CT history. The results were non-significant ($p = 0.125$, one-tailed). Therefore, there was not sufficient evidence that victims of AR while attending college with CT history had significantly higher scores on the PCL-5 than participants without a history of CT.
There is a consensus in the literature that previous childhood or adolescent sexual victimization puts individuals at increased risk for sexual victimization later in life (Humphrey & White, 2000; Lalor & McElvaney, 2010; Maker, Kemmelmeier, & Peterson, 2001; Messman-Moore & Brown, 2006). When the researcher ran a frequency distribution on participants who answered, “yes” to the sexual abuse question on the SLESQ-R, 51.2% of those women also reported being raped since attending college.

Research Hypothesis 4A

Research hypothesis 4A stated: For college age women who experienced rape since attending college and CT as indicated by the SLESQ-R, there was a significant difference in levels of rape. In particular, the researcher wanted to determine whether college age women who have experienced rape since attending college and CT as indicated by the SLESQ-R will experience higher frequencies of rape. Using a One-Way Chi-Square analysis, there was sufficient evidence of a significant difference in level of rape victimization. More specifically, there were two major contributors in the analysis. Low levels of rape were observed more than expected, and high levels of rape were observed less than expected. It is worth noting that almost half of the participants who reported being raped since attending college and experienced CT also reported revictimization while still in school. As mentioned in H_{R3B}, the SLESQ-R is not specific to sexual revictimization, so a comparison to previous literature cannot be made here.

Research Hypothesis 4B

Research hypothesis 4B stated: For college age women who experienced AR since attending college and CT as indicated by the SLESQ-R, there is a significant difference in levels of AR. In particular, the researcher wanted to determine whether college age women who have experienced AR since attending college who also experienced CT as indicated by the SLESQ-R
would experience higher levels of AR. Using a One-Way Chi-Square analysis, there was sufficient evidence of a significant difference in level of AR victimization. More specifically, there were two major contributors in the analysis. Low levels of AR were observed more than expected, and high levels of AR were observed less than expected. It is worth noting that the data from this analysis revealed that almost half of the participants who reported AR since attending college and experienced CT reported revictimization while still in school. As mentioned in H_{R3B}, the SLESQ-R is not specific to sexual revictimization, so a comparison to previous literature cannot be made here.

**Research Hypothesis 5A**

Research hypothesis 5A stated: For college age women who experienced rape since attending college, there is a significant difference in either mean PCL-5 score or mean SASS-II score by encounter status. In particular, the researcher wanted to determine whether college age women who have encountered their perpetrator since the attack would have higher mean scores on the PCL-5 and SASS-II than those who have not encountered their perpetrator. The results of the first independent $t$ test showed that the PCL-5 score was statistically significant when the victim had encountered the perpetrator since the attack ($p = 0.007$, one-tailed). This means that there was a significant relationship between women who had encountered their perpetrator since the attack and an increased score on the PCL-5 in the rape group. The significant relationship found in this test supports what the World Health Organization (2012) found in their study: that victims of sexual assault and rape are more likely to suffer from PTSD.

The second independent $t$ test compared the means of SASS-II scores based on encounter status. The results of the test were non-significant ($p = 0.11$, one-tailed). Therefore, there was not sufficient evidence of a significant relationship between encounter status and SASS-II score in
the rape group. As this is the first study to examine instrument scores based on encounter status, there is not any previous research with which to compare this data.

**Research Hypothesis 5B**

Research hypothesis 5B stated: For college age women who experienced AR since attending college, there is a significant difference in either mean PCL-5 score or mean SASS-II score by encounter status. In particular, the researcher wanted to determine whether college age women who have encountered their perpetrator since the attack would have higher mean scores on the PCL-5 and SASS-II than those who have not encountered their perpetrator. The results of the first independent t test showed that the PCL-5 score was not statistically significant when the victim had encountered the perpetrator since the attack (p = 0.090, one-tailed) for the AR group. This means that there was not a significant relationship between victims of AR who had encountered their perpetrator since the attack and score on the PCL-5. The second independent t test compared the means of the SASS-II scores for the AR group based on encounter status. The results of the test were non-significant (p = 0.289, one-tailed). Therefore, there was not sufficient evidence of a significant relationship between encounter status and SASS-II score for the AR group. There has not been any research to date that examined encounter status, PTSD symptoms, and SASS-II score.

**Research Hypothesis 6A**

Research hypothesis 6A stated: For college age women who experienced rape since attending college, there is a significant difference in mean number of lifestyle changes by encounter status. In particular, the researcher was interested in determining whether college age women who encountered their perpetrator since the attack have a higher mean number of lifestyle changes. Fifty-six percent of participants (n = 42) reported encountering their
perpetrator since the attack. This number is less than the 76.4% reported by Murnen et al., (1989), but still very important for this research. Edwards et al., (2012) reported that 75% of the college women in their study reported continuing some type of relationship with the perpetrator following sexual assault. Furthermore, the CSA study reported that over two-thirds of female victims tried to avoid their attacker on campus (Krebs et al., 2007).

An independent $t$ test was used to compare the means of life changes for the rape group. In the rape group, participants who encountered their perpetrator since the attack reported more life changes on average than those who had not encountered their perpetrator since the attack. Results were significant ($p = 0.009$, one-tailed). Therefore, there was sufficient evidence that encountering a rape victims’ perpetrator since the attack increases the number of lifestyle changes the victim makes. Because lifestyle changes have not been assessed in terms of encounter status before, there is no previous research to which to compare these results.

Research Hypothesis 6B

Research hypothesis 6B stated: For college age women who experienced acquaintance rape since attending college, there is a significant difference in mean number of lifestyle changes by encounter status. In particular, the researcher was interested in determining whether college age women who encountered their perpetrator since the attack have a higher mean number of lifestyle changes. An independent $t$ test was computed with participants in the AR group by encounter status. In the AR group, participants who encountered their perpetrator since the attack reported more life changes on average than the rape group, and those that had not encountered their perpetrator since the attack. Results were significant ($p = 0.011$, one-tailed). Therefore, there was sufficient evidence that encountering an AR victims’ perpetrator since the attack increases the number of lifestyle changes the victim incurs. In summary, the data shows that
encountering one’s perpetrator since the attack has a significant effect on life changes regardless of the victim’s relationship to the perpetrator. As mentioned previously, there is not any existing literature examining post-attack victim-perpetrator interaction and its’ effects on life changes in victims, so this data cannot be related back to previous research.

The individual changes that each participant endorsed are a significant addition to the literature by supporting the CSA study’s findings that women in college who are raped are likely to drop a class, change their major, seek counseling, and/or change universities (Krebs et al., 2007). This also supports Culbertson et al., (2001) who found that women who have been victims of sexual assault may experience significant life changes. Significant lifestyle changes were a long-term effect of rape first identified by Burgess and Holmstrom in their conceptualization of RTS beginning in 1974.

A review of the results of the study indicates that 16.2% of participants were raped since attending college, and nearly half of those women had been revictimized. This supports previous research by Humphrey & White, 2000; Lalor & McElvaney, 2010; Maker, Kemmelmeier, & Peterson, 2001; and Messman-Moore & Brown, 2006 who all found that sexual victimization in childhood or adolescence puts individuals at increased risk for sexual victimization later in life. A vast majority of participants reported experiencing previous trauma and complex trauma. Furthermore, 65.5% of women reported encountering their rapist after the attack. Results also indicated that being a victim of rape, or acquaintance rape while attending college was a significant influence on whether a participant would meet the Posttraumatic Stress Disorder threshold (score of 38 or above) for diagnosis on the PTSD Checklist for DSM-5. This finding supports previous research conducted by Kilpatrick et al., (1989) and Carretta (2011) who assessed for Posttraumatic Stress Disorder as an effect of rape. There was evidence of a
significant relationship between being a victim of rape since attending college and having a history of complex trauma. Although there is not any previous research to directly relate this finding back to, it provides implications for further research, which are described below. There was also evidence that being a victim of rape since attending college and encountering one’s perpetrator since the attack increased the participants’ Posttraumatic Stress Disorder symptoms, and the chances they would engage in more lifestyle changes. This supports Burgess and Holmstrom (1974) and Culbertson et al., (2001) who found that lifestyle changes are often an impact of rape.

**Limitations of the Study**

The study has several limitations. First, there are limitations related to the sample and generalizability. Although the sample was large enough to satisfy power analysis, the response rate was only 5.5%. The response rate was much lower than the response rate (85.6%) Fisher, Cullen, and Tuner’s (2000) study of the sexual victimization of college women. The survey closing earlier than expected might have had an effect on the sample size. The small sample size may affect the generalizability of the data to women at similar institutions. Sampling error is still a possibility due to coverage error (Dillman, Smyth, & Christian, 2009). This means results could be skewed because not all persons who were eligible to be part of the sample were included (in this case all female, undergraduates). There were a number of women who started taking the survey but did not finish (non-completers), and women who received the e-mail but chose not to participate in the survey at all (non-response error). The influence on the data of both of those groups may have increased sampling bias (Fowler, 2009).

Second, technology may have been a limitation to the study. In 1999 Spool et al., (as cited in Vehovar & Manfreda, 2012) found that survey participants are less likely to pay
attention to text in web surveys and more likely to attune to graphics when compared with paper and pencil tests. Participants who started the survey but did not complete it may have dropped out due to technological issues such as individual computer or Internet problems.

Third, there were limitations of the study based on the survey questions. Some of the questions were a limitation for several reasons. The first reason is the survey included several author-generated questions. Although these questions were designed with clarity for the participants in mind (Salant & Dillman 1994), they were not rigorously tested before use (besides the cognitive interview described in Chapter 3). Previous versions of the PCL-5 have been rigorously tested (McDonald & Calhoun, 2010; Orsillo, 2001; Wilkins et al., 2011), this version of the instrument has not. The SLESQ-R and SASS-II were not used widely in previous research.

Fourth, the topic of the study was a limitation. Personal trauma is a very sensitive subject and may be too difficult for some people to think about, or answer questions about their experiences. This may have deterred women from participating who otherwise would have if the subject matter were different. Conversely, for those who have experienced traumatic events and wish to participate, their motivations may be to help others in the future (Cook et al., 2011).

Implications and Recommendations for Future Research

Several important conclusions can be drawn from this study. First, there is evidence to suggest that being a victim of rape on a college campus has a significant impact on PTSD symptoms when compared with non-victims, and victims of stranger rape. For the future, it is important to examine in more detail which PTSD symptoms specifically affect this population more often than others. This has implications for counselors treating victims of rape in college counseling centers and rape crisis centers. These results may imply heightened levels of fear,
anxiety, and hyperarousal in AR victims on college campuses. This is not a topic currently explored in the literature and therefore, studies on this are warranted.

Second, statistics from the study show that college women who are victims of rape and have previous CT have higher PTSD symptomatology than college women without a history of CT. Because this is the first study of its kind addressing different types of CT with female college students, this relationship should be studied further, including a focus on which types of previous CT are highly correlated to women who become victims of rape while in college.

Third, data found on post-attack victim-perpetrator interaction were significant. Victims of rape who had encountered their perpetrator since the attack endorsed more PTSD symptomatology than those that did not. This information adds to the small amount of previous research that exists on post-attack victim-perpetrator interaction, and begins to fill the gap in the literature regarding this issue with this specific population. More study on the specifics of these interactions, their effects, and how individuals cope with them is warranted. Fourth, the research indicates that females in college who encounter the perpetrator of their rape or acquaintance rape after the fact are more likely to engage in more lifestyle changes than those women who did not encounter their perpetrator. More investigation into specific lifestyle changes and what prompts them is recommended. If university counselors and administrators understood these changes better, they could better support victims of rape in college who are dealing with these life changes. Preventative measures to protect these victims from encountering their perpetrators may reduce PTSD symptomatology and significant lifestyle changes the victims incur. Although some qualitative data was collected in this study, it would be informative for a future research project to ask about post-attack victim-perpetrator interaction entirely from a qualitative perspective to get a clearer picture of what these women are experiencing.
The researcher suggests some general implications for future research based on the limits of the current study. First, intimate partner violence is an issue identified in recent research with college students (Catalano, 2013). Further study is warranted into the scope of rape within romantic relationships with college students. Second, little research exists on the topic of rape and AR of males attending college. Future research should include this demographic in similar studies. Third, the factors of the SASS-II should be explored with AR victims specifically to examine the factor structure and find which factors are most common to this population and comparing SASS-II factors to the original concepts outlined in Rape Trauma Syndrome. Fourth, it would be beneficial to replicate similar research across multiple universities, colleges, and community colleges so the results would be generalizable to a larger group. Finally, it would add to existing research to conduct a longitudinal study with this population to see how levels of PTSD symptomatology and other affects of AR change over time, especially once the individual graduates and leaves the college campus environment.

**Conclusion**

In review, a discussion of the results of the study was presented in Chapter 5. Findings included statistics supporting that female victims of AR on college campuses experience higher PTSD symptomatology than those who have not experienced rape or have experienced stranger rape since attending college. Results showed evidence that being a female victim of rape while attending college and experiencing previous CT increases PTSD symptomatology. PTSD symptomatology also increased when participants had encountered their perpetrator since the attack. Finally, the researcher found that participants who had encountered their perpetrator since the attack endured more lifestyle changes than those who had not.
Chapter 5 included a discussion of the limitations of the study which included: a) sample, b) technology, c) questions and instrumentation, and d) study topic. Numerous implications and suggestions for future research were included highlighting the need for more research in general with this population, as well as research expanded to include males on college campuses, and longitudinal research to examine these issues over time.
BIBLIOGRAPHY


LIST OF APPENDICES
APPENDIX A: DEMOGRAPHIC QUESTIONNAIRE
Demographic Questionnaire

1. Please check the box to verify that you are at least 18 years old or older [   ]

2. What is your age (in years)? (text box)

3. What is your ethnicity? Please select the race with which you most closely identify?
   a. Black or African American
   b. White
   c. American Indian or Alaska Native
   d. Native Hawaiian or other Pacific Islander
   e. Asian
   f. Hispanic or Latino
   g. Multi-racial
   h. Other, please specify:

4. Place of Local Residence?
   a. On campus
   b. Off campus

5. With whom do you live?
   a. Alone
   b. With roommates
   c. With family
   d. Other – please specify

6. Are you affiliated with a Greek organization on campus (sorority)? (yes/no)

7. What is your current academic standing?
   a. Freshman
b. Sophomore

c. Junior

d. Senior

e. Other – please specify

8. In how many hours of classes are you currently enrolled?

   a. 3-6

   b. 9-15

   c. 18+

   d. Other – please specify

9. Since attending college, have you ever engaged in sexual intercourse (penetration by a penis or object into your vagina, mouth, or buttocks) against your will by means of force, violence, coercion, or fear of bodily injury by a male?

   e. By whom?

      i. Friend

      ii. Classmate

      iii. Acquaintance

      iv. Casual Date

      v. Boyfriend

      vi. Ex-boyfriend

      vii. Stranger

      viii. Family Member

      ix. Other – please specify

10. If yes, on how many occasions? (Fill in the blank)
APPENDIX B: SEXUAL ASSAULT SYMPTOM SCALE-II AND LIFE CHANGES

QUESTION
Sexual Assault Symptom Scale II

The questions asked here concern your feelings and experiences in the past TWO weeks. Please select the answer that best represents your feelings. During the past two weeks how much have you been distressed or upset by:

<table>
<thead>
<tr>
<th>Question</th>
<th>Not at All</th>
<th>A Little Bit</th>
<th>Moderately</th>
<th>Quite a Bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Worry about injuries from the assault.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. Worry about contracting a disease from the assailant.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. Feeling guilty</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. Feeling easily annoyed or irritated</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. Fear of going out of your house</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. Feeling nervous in the dark</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. Nervous about talking to the police</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. Feeling fearful about your personal safety</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. Nervous about being sexually assaulted again.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. Embarrassed about what you had to do to survive the assault</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. Feeling no interest in things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. Feeling hopeless about the future</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13. Feeling fearful</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14. Having spells of terror or panic</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15. Nervous when people are behind you</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16. Anger at the police or legal system</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17. Having temper outbursts</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. Mood swings, being up and down</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19. Feeling ashamed</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. Anger at family or friends</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21. Thoughts of ending your life</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22. Difficulty relating to other people</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23. Feeling nervous when you are left alone</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24. Fear of men</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25. Fears about testifying in court</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>26. Blaming yourself</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>27. Feeling lonely</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>28. Feeling afraid of open spaces</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>29. Feeling sad or depressed</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>30. Feeling you didn’t handle the assault as well as you might have</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>31. Feeling you shouldn’t have gotten into the assault situation in the first place</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Life Changes Question:

1. In what way has your life changed since this incident? (Check all that apply)
   a. Changed residences
   b. Sought counseling (mental health or religious)
   c. Changed jobs
   d. Changed majors
   e. Dropped a class or classes
   f. Experienced changes in friendships or other relationships (please describe)
   g. Experienced an unwillingness to go certain places
APPENDIX C: PTSD CHECKLIST FOR DSM-5
PTSD Checklist for DSM-5

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

<table>
<thead>
<tr>
<th>In the past month, how much have you been bothered by:</th>
<th>Not at All</th>
<th>A Little Bit</th>
<th>Moderately</th>
<th>Quite a Bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Repeated, disturbing, and unwanted memories of the stressful experience?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. Repeated, disturbing dreams of the stressful experience?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. Feeling very upset when something reminded you of the stressful experience?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. Avoiding memories, thoughts, or feelings related to the stressful experience?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. Trouble remembering important parts of the stressful experience?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. Blaming yourself or someone else for the stressful experience or what happened after it?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Comment</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------------------------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>12</td>
<td>Loss of interest in activities that you used to enjoy?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Feeling distant or cutoff from other people?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Trouble experiencing positive feelings <em>(for example, being unable to feel happiness or have loving feelings for people close to you)</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Irritable behavior, angry outbursts, or acting aggressively?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Taking too many risks or doing things that could cause you harm?</td>
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<td>17</td>
<td>Being “superalert” or watchful or on guard?</td>
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<tr>
<td>18</td>
<td>Feeling jumpy or easily startled?</td>
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<tr>
<td>19</td>
<td>Having difficulty concentrating?</td>
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<tr>
<td>20</td>
<td>Trouble falling or staying asleep?</td>
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</tbody>
</table>
APPENDIX D: PERPETRATOR ENCOUNTER QUESTIONS
Perpetrator Encounter Questions

1. Have you encountered your perpetrator since the incident? (Yes/No)

2. If yes, please describe the circumstances and interaction: (text box)

3. How did you react to seeing him and how did you feel afterwards? (text box)
APPENDIX E: STRESSFUL LIFE EVENTS SCREENING QUESTIONNAIRE-REVISED
Stressful Life Events Screening Questionnaire-Revised

The items listed below refer to events that may have taken place at any point in your entire life, including early childhood.

1. Have you ever had a life-threatening illness?
   No _____ Yes _____ If yes, on how many occasions?

2. Were you ever in a life-threatening accident?
   No _____ Yes _____ If yes, on how many occasions?

3. Was physical force or a weapon ever used against you in a robbery or mugging?
   No _____ Yes _____ If yes, on how many occasions?

4. Has an immediate family member, romantic partner, or very close friend died because of accident, homicide, or suicide?
   No _____ Yes _____
   Have you had a miscarriage? No ______ Yes ______ If yes, how many?

5. At any time, has anyone (parent, other family member, romantic partner, stranger or someone else) ever physically forced you to have intercourse, or to have oral or anal sex against your wishes, or when you were helpless, such as being asleep or intoxicated?
   No _____ Yes _____ If yes, at what age? ________________
   If yes, how many times? 1 _____, 2-4 _____, 5-10 _____, more than 10_____

6. Other than experiences mentioned in earlier questions, has anyone ever touched private parts of your body, made you touch their body, or tried to make you to have sex against your wishes?
   No _____ Yes _____ If yes, at what age? ________________
   If yes, how many times? 1 _____, 2-4 _____, 5-10 _____, more than 10_____

7. When you were a child, did a parent, caregiver or other person ever slap you repeatedly, beat you, or otherwise attack or harm you?
   No _____ Yes_____ If yes, at what age __________________________
If yes, how many times? 1 _____, 2-4 _____, 5-10 _____, more than 10 _______

8. As an adult, have you ever been kicked, beaten, slapped around or otherwise physically harmed by a romantic partner, date, family member, stranger, or someone else?

  No _____  Yes _____  If yes, at what age? ______________________

  If yes, how many times? 1 _____, 2-4 _____, 5-10 _____, more than 10_____

  If repeated, over what period? 6 mo. or less _____, 7 mos.- 2 yrs. _____, more
  than 2 yrs. but less than 5 yrs. ______, 5 yrs. or more _______.

9. Has a parent, romantic partner, or family member repeatedly ridiculed you, put you down, ignored you, or told you were no good?

  No _____  Yes _____  If yes, at what age? ______________________

  If yes, how many times? 1 _____, 2-4 _____, 5-10 _____, more than 10_____

  If repeated, over what period? 6 mo. or less _____, 7 mos.- 2 yrs. _____, more
  than 2 yrs. but less than 5 yrs. ______, 5 yrs. or more _______.

10. Other than the experiences already covered, has anyone ever threatened you with a weapon like a knife or gun?

    No _______  Yes ______  If yes, at what age? ______________________

    If yes, how many times? 1 _____, 2-4 _____, 5-10 _____, more than 10_____

    If repeated, over what period? 6 mo. or less _____, 7 mos.- 2 yrs. _____, more
    than 2 yrs. but less than 5 yrs. ______, 5 yrs. or more _______.

11. Have you ever been present when another person was killed? Seriously injured? Sexually or physically assaulted?

    No _____  Yes _____  If yes, at what age? ______________________  On how many
occasions?

12. Have you ever been in any other situation where you were seriously injured or your life was in danger (e.g., involved in military combat or living in a war zone)?

    No_______  Yes_______
If yes, at what age? On how many occasions?

13. Have you ever been in any other situation that was extremely frightening or horrifying, or one in which you felt extremely helpless, that you haven't reported?

   No_____   Yes_____

If yes, at what age? On how many occasions?
E-mail to Participants

RE: College-Age Women and Stressful Life Events

Dear Student,

For my dissertation, I am investigating how college women are affected by specific stressful life events. I would like to invite you to participate in the study and to participate you must identify as a female, between the ages of 18 and 25. The survey consists of several sets of questions, the first of which is a series of demographic questions. Following the demographic questions you will be asked to complete other instruments that include questions related to whether or not you have experienced specific stressful events. Some of the questions are about sensitive topics such as unwanted sexual experiences and other potentially traumatic events. **You can skip any question that you feel uncomfortable answering or do not want to answer, and you can terminate your participation at any time.** Depending on how you answer the questions, the survey may take 10-45 minutes of your time. Because of the sensitive nature of some of the questions, you may be more comfortable completing the survey in a more private setting.

The survey will be completed entirely online and none of your identifying information will be collected, so all of your answers will be anonymous. Participation and completion of this survey is entirely voluntary. If you begin the survey and decide at any point that you want to discontinue your participation you are free to do so.

Below are examples of two of the most sensitive questions:

“Have you ever been present when another person was killed? Seriously injured? Sexually or physically assaulted?”

“Since attending college, have you ever engaged in sexual intercourse (penetration by a penis or object into your vagina, mouth, or buttocks) against your will by means of force, violence, coercion, or fear of bodily injury by a male?”

This study has been reviewed by The University of Mississippi’s Institutional Review Board (IRB). The IRB has determined that this study fulfills the human research participant protections obligations required by state and federal law and university policies (Protocol #15x-125). If you have any questions, concerns, or reports regarding your rights as a participant in this research study, please contact the IRB at irb@olemiss.edu or at (662) 915-7482.

To thank you for your time and effort, you will have the option at the conclusion of the survey to enter to win one of five $20 gift cards to Wal-Mart. Note that if you enter your name into the drawing your answers will be separated from your name.

If you have any questions about this study, please contact me, the primary researcher, Stephanie Bell at scbell@go.olemiss.edu or Dr. Lori Wolff, research advisor, at lawolff@olemiss.edu or 662-915-5791.
By clicking the link below, you are agreeing to participate in this research project.

“YES, I consent to participate in this survey”
http://olem iss.az1.qualtrics.com/SE/?SID=SV_em6cYMLBam8aimV

Stephanie C. Bell, M.S., NCC
Doctoral Candidate
Counselor Education
scbell@go.olemiss.edu

Lori Wolff, Ph.D., J.D.
Professor
Leadership & Counselor Education
lawolff@olemiss.edu

The following are a list of resources you may find helpful. Note: This resource list is also available at the end of the survey.

Campus Resources:

University Counseling Center: counseling.olemiss.edu or 662-915-3784

Violence Prevention Office: violenceprevention.olemiss.edu or 662-915-1059

Psychological Services: www.olemiss.edu/depts/psc or 662-915-7385

Title IX Coordinator: Joseph Lawhorne, 270-D Martindale, 662-915-7735

Community Resources:

United Way of Oxford/Lafayette County-Family Crisis Services:
http://www.unitedwayoxfordms.org/family-crisis-services

Family Crisis Services of Northwest Mississippi Inc.: www.oxfordadvocacy.org or 662-234-9929

Online/Telephone Resources:

Rape, Abuse, and Incest National Network (RAINN): www.rainn.org

National Sexual Assault Hotline: 1-800-656-HOPE

National Sexual Assault Online Hotline: ohl.rainn.org/online

National Domestic Violence Hotline: www.thehotline.org or 1-800-799-7233

Not Alone: Together Against Sexual Assault: www.notalone.gov

National Suicide Prevention Lifeline: 800-273-TALK
VITA

STEPHANIE C. BELL

EDUCATION

Graduate

2012 - Present
University of Mississippi – Oxford, MS, Planned Graduation - May, 2015
Ph.D. Counselor Education (Dissertation Successfully Defended), CACREP Accredited
Dissertation: “The Relationship Between the Effects of Rape, Posttraumatic Stress Disorder, Complex Trauma, and Post-Attack Victim-Perpetrator Interaction in Female College Students.”
Dissertation Co-Chairs: Dr. Lori Wolff, Ph.D., J.D., and Dr. Marilyn Snow, Ph.D.

2009 - 2012
Mississippi College – Clinton, MS,
M.S. Mental Health Counseling, CACREP Accredited

Undergraduate

2004 - 2008
Loyola University New Orleans – New Orleans, LA
B.A. Psychology and Criminal Justice

HONORS

Chi Sigma Iota Honor Society Member (2010-present)

TEACHING EXPERIENCE

Course Development & Co-Instruction

Summer 2014
COUN 687 Seminar in Special Problems: Trauma Counseling (Hybrid) – Developed and presented lectures on trauma related topics. Designed assignments, graded annotated bibliographies, and provided grading and feedback for weekly online discussion posts.
COUN 674 Diagnostic Systems in Counseling – Constructed and presented lectures, quizzes, and exams on the DSM-5. Graded exams and papers on specific diagnoses, measured student learning outcomes.

Spring 2014
COUN 686 Counseling with Children and Adolescents (Hybrid) – Designed and presented lectures, online quizzes, and in-class activities. Graded in-class presentations, written assignments, and online quizzes.

Fall 2013
COUN 639 Introduction to Professional Counseling and Ethics – Developed and led weekly discussions on ethics issues in the counseling profession. Conducted several lectures over the course of the semester.

Summer 2013
COUN 605 Research in Counseling (Hybrid) – Designed and gave several lectures, helped construct and grade online quizzes and in-class exams.

COUN 601 Lifespan Development (Online) – Designed course assignments, grading rubrics, and online quizzes. Graded online quizzes and response papers.

Personal Growth Group Leader

Spring 2013
COUN 643 Group Procedures – Led two personal growth groups for master’s level counseling students as the experiential portion of their class in group counseling. Read and responded to weekly reflection papers on group meetings.

COUNSELING & SUPERVISION EXPERIENCE

Group Leader – University of Mississippi Counseling Center
- Co-leading existential process groups with 6-8 college students each semester.

Counseling Supervisor
- Scheduled, planned, organized, and conducted individual weekly supervision sessions with 3 master’s level counseling students.

Ph.D. Practicum – EDHE Counselor
- Provided individual counseling for college students on academic probation.

Counselor Intern – The Counseling Center, Ridgeland, MS.
-Provided individual counseling and psychometric testing with adolescents and adults. Completed assessment training with the WISC, WAIS, WIAT, and WRAT. Performed family counseling with adolescents and their families.

Counselor Intern – Psycamore Psychiatric Programs, Flowood, MS.
-Provided individual and group counseling with adolescents and adults in an intensive outpatient setting.

Counselor Intern – Mississippi College Counseling Center, Clinton, MS.
-Provided individual counseling with college students and coordinated activities for the counseling center.

PUBLICATIONS

Book Chapters


Manuscripts in Progress

PROFESSIONAL PRESENTATIONS

Regional


**State**


**Presentation Applications in Progress**


**PROFESSIONAL SERVICE**

**Leadership**

Ph.D. and Master’s Program Information Sessions. Departmental Representative. 2012-2014


New Ph.D. Student Mentor. 2012-2014

**Professional Memberships**

Mississippi Counseling Association (2012-present)
American Counseling Association (2012-present)
American Mental Health Counselors Association (2012-present)
International Society of Traumatic Stress Studies (2013-present)
Association for Counselor Educators and Supervisors (2012-present)
Southern Association for Counselor Educators and Supervisors (2012-present)

**PROFESSIONAL CREDENTIALS**

National Board of Certified Counselors, (2014)