

**Beyond the Party Lifestyle: A Quantitative Analysis of Sexual Victimization Among
College Students**

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ABSTRACT

The last two years have been a time of marked interest in understanding and stopping victimization, specifically, the sexual victimization of college students. With increasing interest and focus on sexual victimization it is important to understand why it happens to keep it from occurring as well as help develop policies and procedures that target particular behaviors and populations, which might be at an increased risk of such victimization. Despite the current increased interest among the public and government concerning sexual victimization on college campuses this is not a new topic, it is one that has received attention from the public, media, the government, and academia for almost three decades. Studies on the sexual victimization of college students over the last 20 to 30 years revealed that students who lead particular “party” lifestyles are at an increased risk of victimization. Recently, research has begun to move beyond the party lifestyles and examine other factors –such as personal characteristics, defined as target congruence measures—that may be contributing to risk of victimization in order to develop a fuller picture of risk factors to help prevent future victimization from occurring. This study extends past research by bridging the gap between these two theories—of lifestyle-routine activities and target congruence—by examining the relationship between all three concepts of target congruence while controlling for all four concepts of lifestyles-routine activities theory among a national-level sample of college students. Furthermore, this study examines female and male subsamples in order to better understand how sex may be acting as a moderating variable, which may impact future prevention and intervention measures. Bivariate and multivariate results indicate that there is strong evidence that certain measures of target congruence should be added to future research. Every model showed significant improvement with the addition of target congruence measures above and beyond just lifestyle-routine activities measures. In

addition, there is evidence that sex acts not only as a main effect, but also as a moderator.

Implications for future research, prevention, intervention, and policy measures are presented.

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CHAPTER 1

VICTIMIZATION AMONG COLLEGE STUDENTS

STATEMENT OF THE PROBLEM AND OVERVIEW OF THE CURRENT STUDY

The National Center for Education Statistics, the primary federal entity for collecting and analyzing data on education in the US and located within the US Department of Education (DOE), estimates that over 21 million students attended US colleges during fall of 2014 (National Center for Education Statistics [NCES], 2014). Fisher, Cullen and Turner (1999) estimate that between 20% and 25% of college women will be the victims of a rape or attempted rape during their tenure in college (Fisher et al., 1999). More recently, Kilpatrick, Resnick, Ruggiero, Conoscenti, and McCauley (2007) reported that 11.5% of college women experienced rape during the year prior to their study. Furthermore, it is estimated that a much larger proportion of college students will be the victims of some type of sexual victimization, such as unwanted sexual touching or verbal harassment during their tenure in college (Fisher et al., 1999). However, rates of rape and sexual assault vary based on the study; yet, given the large number of students in college and the incidence of sexual assault among this population, there is a reason to be concerned with the extent of this problem. A more in-depth discussion of the extent of sexual victimization of college students is presented later in this Chapter.

To understand victimization researchers have consistently and continually used the framework of lifestyle-routine activities. More specifically, lifestyle-routine activities has been used to explain and understand why victimization—in this case sexual victimization—increases during students' tenure at university (Cass, 2007; Fisher, Sloan, Cullen, & Lu, 1998; Fisher et al., 1999; Koss, Gidycz, & Wisniewski, 1987; Kilpatrick et al., 2007; Krebs, Lindquist, Warner, Fisher, & Martin, 2009; Mohler-Kuo, Dowdall, Koss, & Wechsler, 2004; Mustaine &

Tewksbury, 2002). Lifestyles-routine activities theory is based on the assertion that particular lifestyles and daily routines can greatly increase an individual's risk of victimization. Lifestyles-routine activities theory is a practical and effective framework for examining victimization among college students because college students tend to have particular lifestyles and routines that greatly increase the risk and opportunity of and for victimization. Many researchers have tested the lifestyle-routine activity approach on college students and have found evidence that the everyday routines and behaviors of college students, such as drinking alcohol, doing drugs, participating in school-based activities, (e.g. sorority membership, participation in on-campus clubs, and organizations) and dating contribute significantly to the risk of sexual victimization (Clodfelter, Turner, Hartman, & Kuhns, 2010; Fisher et al. 1999; Franklin, Franklin, Nobles, & Kercher, 2012; Mustaine & Tewksbury, 2002; Scherer, 2011; Schwartz & Pitts, 1995). These routine behaviors and lifestyles, which contribute to victimization, have been termed "party lifestyles."

In comparison, Finkelhor and Asdigian (1996) originally posited that personal characteristics—in conjunction with lifestyle and routines activities—could expose or protect victims from victimization. Finkelhor and Asdigian called their theory target congruence. However, their focus was on youth not college students. Furthermore, most studies concerning the theory of target congruence tend to focus on single concepts within the theory such as target attractiveness (Scherer, 2011) or target antagonism (Waldner & Berg, 2008). The theory and concepts of target congruence are particularly useful in examining risk of sexual victimization because, as Finkelhor and Asdigian point out, sexual victimization is a crime done to meet the needs, motives, and reactivities of offenders independent of lifestyle choices (p. 6). The authors go on to state that offenders are sometimes drawn to particular types of victims or certain

characteristics in victims that may make them more amenable to the offender. Thus, in conjunction with lifestyle-routine activities, target congruence can and should help increase the explanatory power of models to help predict and understand sexual victimization of college students.

While many researchers have examined a wide-range of risk factors for victimization among college students, no published studies have examined sexual victimization from the framework of target congruence; specifically, no studies have examined how all the concepts of target congruence—target vulnerability, target amenability, and target antagonism—influence the risk of sexual victimization net of lifestyle-routine activities measures. Groundbreaking studies are just now beginning to examine the risk of students with both physical and mental disabilities, as well as psychological distress (Scherer, 2011); however, these studies fail to examine all three concepts of target congruence as a whole to understand their impact on risk of sexual victimization while controlling for the relevant opportunity measures.

The purpose of this dissertation is four fold. First, the goal is to bridge the gap between these two theories by examining the relationship between all three concepts of target congruence while controlling for all four concepts of lifestyles-routine activities theory among a national-level sample of college students. As past research shows, there is a clear link between lifestyles-routine activities and victimization (Cass, 2007; Clodfelter et al., 2010; Combs-Lane & Smith, 2002; Fisher et al. 1998; 1999; Franklin, 2010b; Franklin et al., 2012; Scherer, 2011; Schwartz & Pitts, 1995), which will be discussed more in-depth in Chapter 2. Likewise, new research also shows there is a link between certain concepts, such as mental and physical disabilities and target vulnerability concerning risk of sexual victimization (Scherer, 2011; see also Chapter 3). However, to better understand and gain a full picture of sexual victimization and hopefully

improve the overall ability to predict and prevent sexual victimization it is important to examine all aspects of target congruence including physical stature and other psychological distress variables, such as eating disorders or undiagnosed anxiety. Having this knowledge can help shape policies to stop sexual victimization before it occurs. Currently, no such published study has examined all of the components of target congruence while controlling for the lifestyle-routine activities variables among college students. Again, it is important to account for lifestyle-routine activities factors when examining risk of college student sexual victimization considering its longstanding impact on the field of victimology and its ability to predict risk. However, as will be stated repeatedly throughout this study, while it is necessary to account for party lifestyle, it is imperative to go beyond the party lifestyle to examine other factors which may have a potentially large impact on risk of victimization; specifically, target congruence measures.

The second goal of this dissertation is to validate past research that has used similar measures and data (Scherer, 2011; Snyder, 2011) concerning relevant variables such as physical disabilities and lifestyle-routine activities measures. The third goal is to not only validate past research but also add to the research concerning target vulnerability and lifestyle-routine activities controls; specifically with variables of physical stature and different, varying psychological distress measures beyond self-reported mental health diagnoses, which may influence risk differentially (see Chapter 3). Last, issues of target antagonism will also be addressed while controlling for relevant lifestyle-routine activities measures.

It should be noted here that the focus of this dissertation is on the theory of target congruence and how measures of target congruence can help add to the overall understanding of sexual victimization among college students. But, it is imperative to include and control for lifestyle-routine activities measures considering that they may expose or protect victims from

victimization (Finkelhor & Asdigian, 1996). Furthermore lifestyle-routine activities measures have proven time and time again that they are strong predictors of sexual victimization among college students (see Chapter 2).

To conduct the above research a nationwide sample from 129 universities, across all 50 states including the District of Columbia, and with over 75,000 cases will be utilized (ACHA, 2011; see Chapter 4). Using this secondary dataset from college students can help researchers, academics, and policy makers understand what influences student victimization *beyond the party lifestyle* (see Chapter 5 and 6) and help construct meaningful policies to prevent sexual victimization from occurring.

The goal of this chapter is to provide an overview of the work that had been done thus far regarding the sexual assault and victimization of college students. This chapter examines the extent and type of sexual victimization that has taken place on college campuses. A discussion of the importance of this information and comparisons to similar non-college student samples will also be discussed.

THE EXTENT OF SEXUAL VICTIMIZATION AMONG COLLEGE STUDENTS

The last two years have been a time of marked interest in understanding and stopping victimization, specifically, the sexual victimization of college students. In May of 2014 the Obama administration released a list of universities under investigation for possible violations of federal law over failures to properly handle and report instances of sexual violence and harassment (U.S. Department of Education [USDOE], 2014). A total of 55 schools were named by the Board of Education for the investigation, with some of the most prestigious universities across the US making the list for investigation, such as Harvard, Princeton, University of California-Berkeley, and Dartmouth (USDOE, 2014). With increasing interest and focus on

sexual victimization (Dockterman, 2015) it is important to understand why it happens to keep it from occurring as well as help develop policies and procedures that target particular behaviors and populations, which might be at an increased risk of such victimization.

Despite the current increased interest among the public and government concerning sexual assault on college campuses this is not a new topic, it is one that has received attention from the public, media, the government, and academia for almost three decades. In 1986 a young woman named Jeanne Clery was raped and brutally murdered in her Lehigh University dorm room by another student, Joseph Henry. Clery's parents stated that they believed they were being prudent in choosing Lehigh University because they thought it would be safer than Tulane University in New Orleans, where her brother attended and where Jeanne originally wanted to go to school (Kiss 2013, p. 33). However, after Jeanne's death the Clery's learned that with only 12 security guards and 5,400 students, Lehigh had been the site of 38 violent offenses—including rape, robbery and assault—in a three-year period prior to 1986, when Jeanne began school. To put this in perspective, Penn State—a university just hours away from Lehigh University—had six times as many students and just 24 violent crimes during the same three-year period (Kiss, 2013).

With this knowledge Jeanne's parents, Howard and Connie Clery, lobbied for legislation to improve disclosure of crime on college and university campuses (Fisher, Daigle, & Cullen, 2010). Their efforts paid off when Congress passed the *Student Right-to-Know and Campus Security Act of 1990* (20 USC 1092); it was then renamed in 1998 to the *Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act* [Clery Act]. The Clery Act requires all Title IX eligible universities and colleges to record and distribute crime statistics that occur on or

near the university campus (Fisher et al., 2010; Fisher & Sloan, 2013). Some of the more important procedures include:

- Disclosure of an annual security report with crime statistics and security policy
- Disclosure of timely information through public crime log and warnings issued about ongoing threats to the health/ safety of the campus community
- Insure the protection of certain basic rights for both the accused and accuser in sexual assault cases adjudicated by campus disciplinary proceedings (Kiss, 2013, p., 35).

Prior to Jeanne's death and her parents efforts little was known about victimization on college campuses. There was a common belief prior to the 1980's that college campuses were places insulated from crime and violence (Fisher & Sloan, 2013). Along with Jeanne's case and several other high profile cases, and in conjunction with the Clery Act the issue of campus crime and victimization was brought to the attention of the public, academics and researchers, as well as policy makers. After the passage of the Clery Act the federal government began to sponsor nation-wide research on issues concerning victimization among college students. This research uncovered the fact that colleges are not safe, ivory towers, as many once believed. Instead, research shows that college students are at a heightened risk of victimization (Fisher et al., 2010).

Thus, over the last 30 years research has examined the prevalence of victimization among college students to better understand its nature and extent (Banyard, Ward, Cohn, Plante, Moorehead, & Walsh, 2007; Baum & Klaus, 2005; Cass, 2007; Fisher et al., 1998, 1999; Franklin et al., 2012; Hines, Armstrong, Reed, Cameron, 2012; Koss et al., 1987; Kilpatrick et al., 2007; Krebs et al., 2009; Mohler-Kuo et al., 2004; Mustaine & Tewksbury, 2002; Scherer, 2011). Studies concerning victimization of college students use varying sampling techniques, examine different types of victimization, and look for different potential risk factors. Evidence repeatedly shows that college students are at a heightened risk for victimization and, more

specifically, that college students are at greater risk of sexual victimization (see *Student Versus Non-Student Sexual Assault*, below).

The Extent of Sexual Victimization Among College Women

As stated previously, there was little thought given to victimization on college campuses, let alone sexual victimization prior to the Clery Act. However, as the concerns regarding sexual victimization of college students grew so did the studies about the amount and type of sexual victimization taking place on college campuses. Of all the scholars Mary Koss and her colleagues have been considered the most influential in examining the extent of sexual victimization on college campuses as well as bringing national spotlight to the issue (Fisher et al., 2010; Fisher & Sloan, 2013, p. 12).

During the mid-to-late 1980's Koss et al. (1987) sampled over 3,000 women from 32 post-secondary institutions in the US in an effort to estimate the amount of sexual contact, sexual coercion, and attempted and completed rape among this population. Koss et al. (1987) created the Sexual Experiences Survey (SES) to measure the extent of completed and attempted rape by physical force as well as intentional intoxication. The SES was a 10-item, behaviorally-specific survey. Koss and her colleagues (1987) found that approximately 16% of the sample experienced a completed or attempted rape within a 12-month period and almost half (46.3%) had experienced some form of sexual victimization in the last year, which was defined using measures of sexual contact, sexual coercion, as well as completed and attempted rape (Koss et al., 1987). Concerning the far reaching influence of Koss' work and the SES, it is important to note that dozens of studies have used the SES questionnaire as the basis of their analysis when examining the relationship between sexual assault victimization and college students (Gidycz, Hanson, & Layman, 1995; Schwartz & Pitts 1995; Hickman & Muehlenhard, 1997; Marx,

Calhoun, Wilson, & Myerson, 2001; Combs-Lane & Smith, 2002; Messman-Moore & Brown, 2006; Messman-Moore, Coates, Gaffey, & Johnson, 2008; Messman-Moore, Ward, & DeNardi, 2013; Crawford, Wright, & Birchmeier, 2008). Table 1.1 provides an overview of selected studies that have used the SES and their findings.

Table 1.1. is by no means exhaustive, numerous studies have been conducted using the SES and found similar results to Koss and her colleagues' work; however, each of the studies in Table 1.1 will also be discussed later, in Chapter 2 and Chapter 3. As Table 1.1 highlights the estimates for rape using the SES vary widely. However, these variations can be attributed to the reference period of the study as well as the type of sexual victimization being examined. For example, Hickman and Muehlenhard (1997) found a 28.1% lifetime prevalence of rape among their sample. In comparison, Messman-Moore and colleagues (2008) only found a 9.5% prevalence of rape among their sample. Furthermore, Messman-Moore and colleagues' reference period was only the past year, which might account for the lower prevalence estimates.

However, the validity of Koss and colleagues' work, as well as the SES as a survey instrument has been questioned. Their statistics regarding sexual assault victimization among college women has been called 'inflated' as a result of the overly broad questions, which were meant to characterize rape (Gilbert, 1991; Gilbert, 1997). Despite the debate regarding the statistics, Koss et al.'s work and SES measures—or measures similar to the SES—have been tested across hundreds of campuses and thousands of students and the results are clear that sexual assaults, including completed and attempted rape, are not rare events among college women (Gidycz et al. 1995; Schwartz & Pitts 1995; Hickman & Muehlenhard, 1997; Marx et al., 2001; Combs-Lane & Smith, 2002; Messman-Moore & Brown, 2006; Crawford et al., 2008).

Table 1.1: Prevalence Rates of Rape Among College Females From Selected Studies Using the SES

Authors (Date of Publication)	Sample (n) (# Campuses)	Reference Period	Type of Victimization: Prevalence (%)
Gidycz et al. (1995)	677 (1)	6 month follow-up	Completed/Attempted Rape: 10.0
Schwartz & Pitts (1995)	288 (1)	Since enrollment	Rape: 19.3 Attempted Rape: 10.5
Hickman & Muehlenhard (1997)	139 (1)	Lifetime	Rape: 28.1
Marx et al. (2001)	66 (2)	2 month follow-up	Rape revictimization control group: 30 Rape revictimization intervention group: 12
Combs-Lane & Smith (2002)	190 (1)	5.5 month follow-up	Completed/Attempted Rape: 12.7
Messman-Moore & Brown (2006)	339 (1)	8 month follow-up	Completed Rape: 7.7
Messman-Moore et al. (2008)	276 (1)	1 academic year follow-up	Rape: 9.5
Crawford et al. (2008)	406 (1)	Since the age of 18	Rape: 21.9
Messman-Moore et al. (2013)	353 (1)	Lifetime	Alcohol-involved rape: 15.6%

Koss et al. (1987) brought national spotlight to the issue of rape and sexual assault on college campuses, which were previously thought to be places free from harm. Likewise, Koss's work helped lay the foundation for studying and understanding drug- and alcohol-facilitated rape and sexual assaults among college students, which led the way for future research to validate and confirm her original findings (Carey, Durney, Shepardson, & Carey, 2015; Kilpatrick et al., 2007; Krebs et al., 2009; Messman-Moore et al., 2013).

After Koss's groundbreaking research almost a decade passed before another national-level study was conducted among a sample of college students. Finally, there was another study to compare Koss's statistics against. Table 1.2 provides an overview of research from both large-scale and national-level studies regarding sexual assault and rape on college campuses that has been completed since Koss's original study. It is important to note that there are a plethora of other medium- and small-scale studies that exist regarding sexual assault and victimization of college students; some of those studies are discussed more in-depth in Chapter 2. Beyond providing a synopsis of the studies, Table 1.2 also provides the definitions of rape and sexual assault—because there are such varying operationalizations among each study concerning these measures the results will vary. Likewise, methodological debates like the one regarding Koss and Gilbert, above, have been sparked due to suggestions of overly broad definitions of rape and/or sexual assault (Fisher et al., 2010, p. 66).

As Table 1.2 shows that while the reported rates of rape and sexual assault victimization among several national- and large-scale studies¹ are smaller than Koss's original estimates there is still a notable proportion of college women—and in some cases men—reporting experiencing

¹ Both national-level and large-scale studies must have over 3,000 cases to be considered. However, in order to be a national-level study students from across the US must be surveyed. This can be done in one of two ways: 1) either through a two-stage random sampling design, to target universities and students, or 2) through a random sample of US adults, such as the NCVS.

a completed or attempted rape. In addition, Table 1.2 shows that a greater proportion of college women and men have experienced sexual assault victimization compared to rape. Sexual assault is typically a more comprehensive measure of sexual victimization that includes acts such as: unwanted sexual touching and threats of sexual contact with or without force (Cass, 2007; Fisher et al., 1998, 1999; Mohler-Kuo et al., 2004; Mustaine & Tewksbury, 2002; Krebs et al., 2009; American College Health Association [ACHA], 2011).

The next large-scale study after Koss's was one of the first studies to examine victimization among college students, both men and women, as well as both violent and property victimization. Fisher et al.'s (1998) national-level study consisted of 3,427 male and female college students from 12 post-secondary institutions. Using survey questions that were designed based on the National Crime Victimization Survey (NCVS) Fisher et al. (1998) reported that attempted and completed rapes were experienced by .83% of the sample. In comparison, there was a somewhat higher percentage of students who reported being a victim of sexual assault, which included unwanted sexual contact since the beginning of the school year, reaching just over 2% (Fisher et al., 1998).

Fisher and her colleagues (1999) continued their work on sexual victimization releasing another study only a year later. The study, titled The National College Women Sexual Victimization Study (NCWSV), collected data from roughly 4,000 college women enrolled at 233 2-year and 4-year institutions. These women were selected using a two-stage probability sampling design (Fisher et al., 1999). In order to examine different types of sexual victimization 12 behaviorally-specific questions based on the National Crime Victimization Survey (NCVS) screen questions were used. Fisher et al. (1999) found that approximately 3% of female college students in their sample had been the victim of a completed or attempted rape between the

beginning of the school year and the time in which the survey was administered, approximately seven months. The reference period mirrored the same timeframe as that of NCVS, which interviews respondents every six months. In addition, the authors found that over 15% of the sample reported experiencing a sexual assault, which included a comprehensive measure of sexual victimization including rape, unwanted sexual contact, sexual coercion, and threats of sexual contact and penetration.

Following Fisher et al. (1998; 1999) Mustaine and Tewksbury (2002) found similar results. They surveyed 674 college women, across 12 southern post-secondary institutions, in eight different states and examined two types of sexual victimization: general sexual assault and serious sexual assault. Using a 12-item scale Mustaine and Tewksbury measured general sexual assault based on behaviors ranging from “being pressured into dates” and “forced to kiss someone” to “a person has made me have sex with them without a condom” and all the way to “a person has threatened me in order to get me to have oral/anal sex with them” (p. 105). Under this operationalization 26.3% of college women reported being the victim of general sexual assault. In comparison to the general sexual assault measure, serious sexual assault also used a 12-item scale and asked questions involving threat or force such as “I had oral/anal sex with someone because they used some type of physical force (held me down, hit me, pulled my hair, scratched me, or used a weapon)” (p. 206). The study found that approximately 10.8% of the respondents were subjected to this more narrowly defined type of sexual victimization.

Table 1.2: Extent of Sexual Victimization Among College Students: Results from National-Level and Large-Scale Studies

Author(s) (Date Published)	Sample (N of institutions)	Study Type (Sexes Included)	Reference Period	Victimization Type	Operationalization	Victimization Prevalence Estimates (%)
Koss et al. (1987)	3,187 (32)	National-Level (Female Only)	12 months	Rape Attempted/Completed	Rape: Attempted intercourse by physical force or intentional intoxication; completed intercourse by physical force; intentional intoxication; and forcible anal or oral penetration	Rape: 16.6
Fisher et. al (1998)	3,427 (12)	National- Level (Female and Male)	6 to 9 months	Rape Attempted/Completed Sexual Assault	Rape: Unwanted attempted/completed penetration by force or threat of force. Penetration includes penile-vaginal, mouth on your genitals, mouth on someone else's genitals, penile-anal, digital- vaginal, object vaginal, and object anal Sexual Assault: Attack or attempted attacks involving unwanted sexual contact	Rape: 0.8 Sexual Assault: 2.2
Fisher et al. (1999)	4,446 (223)	National-Level (Female Only)	Approx. 7 months	Rape Attempted/Completed Sexual Assault	Rape: completed or attempted force vaginal, anal, or oral penetration by the offender or a foreign object Sexual Assault: completed and attempted rape; completed and attempted sexual contact with force; threat of rape; threat of contact with force; completed and attempted sexual coercion; completed and attempted sexual contact without force; threat of penetration without force, and threat of contract without force	Rape: 2.8 Sexual Assault: 15.5

Table 1.2: Continued

Mustaine & Tewksbury (2002)	647 (12)	Large-Scale (Female Only)	6 months	Sexual Assault	Sexual Assault: Unwanted anal, oral, or vaginal intercourse without force, forced vaginal, anal or oral penetration; Sexual encounter where the respondent felt sexually taken advantage of	Sexual Assault: 10.8
Mohler-Kuo et al. (2004)	23,980 (119)	National-Level (Female and Male)	3 waves (1997, 1999, and 2001); Approx. 6 months each	Rape	Rape: Forced sexual intercourse; sexual intercourse as a result of being threatened with harm nonconsensual sexual intercourse as a result of intoxication	Rape: 4.7
Baum & Klaus (2005)	36,881 (n/a)	National-Level (Female and Male)	Average annual estimates	Rape/ Sexual Assault	Rape/Sexual Assault: Attempted or completed forced vaginal, anal, or oral penetration by the offender or a foreign object; this can also involve psychological coercion.	Rape/Sexual Assault: 0.4
Cass (2007)	3,036 (11)	National-Level (Female and Male)	6 to 9 months	Sexual Assault	Sexual Assault: Forced or coerced unwanted sexual acts	Sexual Assault: 3.7
Kilpatrick et al. (2007)	2,000 (253)	National-Level (Female Only)	7 months	Sexual Assault	Sexual Assault: Forced or nonconsensual unwanted oral, anal, or vaginal penetration due to voluntary or involuntary alcohol and/or drug consumption	Sexual Assault: 3.0

Table 1.2: Continued

Krebs et al. (2009)	5,446 (2)	Large-Scale (Female Only)	Since entering college	Rape Attempted/Completed Incapacitated or forcible rape	Rape: Unwanted sexual contact either through physical force, threat of physical force, or while incapacitated.	Incapacitated Rape: 8.5 Physically Forced Rape: 3.4
American College Health Association (2011)	84,760 (129)	National-Level (Female, Male, and Transgender)	12 months	Rape Attempted/Completed Sexual Assault	Rape: Attempted or completed sexual penetration (vaginal, anal, oral) without consent Sexual Assault: Sexual touch without consent	Rape: 4.3 Sexual Assault: 6.5
CORE Institute (2014)	141,391 (n/a)	National-Level (Female and Male)	2 years	Rape Sexual Assault	Rape: Unwanted sexual intercourse Sexual assault: Forced sexual touching or fondling	Rape: 2.7 Sexual Assault: 4.2
Sinozich & Langton (2014)	160,040 ² (n/a)	National-Level (Female only)	Average annual estimates	Rape Attempted/Completed Sexual Assault	Rape: Forced or coerced unwanted sexual acts Sexual Assault: Unwanted Sexual Contact	Completed Rape: .2 Attempted Rape: .15 Sexual Assault: 0.19

² It is important to note that Sinozich & Langton (2014) never directly address sample size. The sample size provided is the number of people ages 12 and older, men and women, across the entire survey period.

Table 1.2: Continued

Cantor et al. (2015)	150,072 (27)	National-Level (Female, Male, and Transgender)	Since entering college	Sexual Assault	Sexual Assault: Unwanted sexual penetration or contact either through physical force, threat of physical force, or while incapacitated.	Sexual Assault: 11.7
Krebs et al. (2016)	23,000 (9)	National-Level (Female, Male, and Transgender) ³	One academic year	Rape Sexual Assault	Rape: Unwanted sexual penetration by force, threat of force, or while incapacitated. Sexual Assault: Unwanted sexual contact by force, threat of force, or while incapacitated.	Rape: 5.6 Sexual Assault: 10.3

³ The reported victimization prevalence estimates on Table 1.2 for Krebs et al. (2016) are for females only. Krebs and colleagues did not run a total sample, but divided the sample between males and females and reported all results separately. Males reported 1.4% and 0.8% prevalence estimates for sexual assault and rape, respectively.

Mohler-Kuo et al. (2004) conducted a study for the Harvard School of Public Health titled the College Alcohol Study (CAS). This study shows both the extent of sexual victimization on college campuses and the relationship between intoxication and victimization. The CAS asked about three different forms of rape: forced intercourse, intercourse as the result of being threatened, and nonconsensual intercourse due to intoxication. Their analysis included waves of data from three different years: 1997, 1999, and 2000. The total sample size from three waves of data was approximately 24,000 students from 119 post-secondary institutions. Mohler-Kuo et al. (2004) found that 4.7% of the respondents were subjected to at least one of the three forms of sexual victimization. The authors also found that there were different rates of victimization based on the type or form of rape. For example, most students reported being the victim of a rape while intoxicated (3.4%), while a smaller percentage reported having experienced forcible rape (1.9%), and even less reported being raped due to being threatened with harm (.4%).

Despite the fact that the above studies found a notable portion of college women experience sexual victimization (Koss et al., 1987; Fisher et al., 1998, 1999; Mustaine & Tewksbury, 2002; Mohler-Kuo et al., 2004), results from the National Crime Victimization Survey (NCVS) do not evidence a significant proportion of rape and sexual assault among college women (less than 1%). It is important to note, the authors did not explicitly include incapacitated rape or sexual assault. Based on the results of the 1995 and 2002 NCVS Baum and Klaus's (2005) study examined roughly 37,000 college women between the ages of 18 and 24 and found that .4% of the college women respondents reported being the victim of rape and sexual assault. More recently, Sinozich and Langton (2014) did a follow-up study using the same data from the NCVS, only this time reporting the findings from 1995 through 2013. Much like Baum and Klaus (2005) the rate of rape and sexual assault was much lower for their study than it

was for other, previous studies. However, unlike Baum and Klaus (2005), Sinozich and Langton (2014) differentiated between attempted and completed rape as well as sexual assault, examining not only a composite of those answers, but also the differences in rates among those categories. The authors found that .15 % and .2% of the college women in their sample had experienced an attempted or completed rape, respectively, while .19% had experienced a sexual assault.

In contrast, Cass (2007), using data from Fisher et al. (1998) operationalized sexual assault based on the screen questions for the NCVS and not the incident reports, which the above studies of Baum and Klaus (2005) and Sinozich and Langton (2014) did. Cass found that 4% of the respondents experienced some type of forced or coerced unwanted sexual act. However, using the screen questions compared to the incident reports can account for the higher rate of victimization in Cass's study, highlighting again the importance of measures and methodology.

Kilpatrick and colleagues (2007) national-level study also shows the extent of rape among college women. The study was based on a sample of 5,001 women and then divided into two groups; one group was nationally representative of college women consisting of 2,000 women from 253 post-secondary institutions while the other group consisted of non-college women between the ages of 18 and 24. Using behaviorally specific questions that were designed based on questions from the National Women's Study (Kilpatrick, Edmunds, & Seymour, 1992), the National College Women Sexual Victimization Study (Fisher et al., 1999), and the National Violence Against Women Survey (Tjaden & Thoennes, 2000) Kilpatrick et al. found that 2.95% of college women reported having experienced any type of rape within in a 7-month period. The study asked specifically about drug facilitated, incapacitated, and forcible rape. Similar to earlier studies (Mohler-Kuo et al., 2004) Kilpatrick et al. found that there was a difference in rates of rape based on the type of rape that students experienced. For example, roughly 1% (.9%)

reported experiencing drug- or alcohol-facilitated rape; whereas, 1.9% of respondents reported forcible rape, while 1.2% reported an incapacitated rape. Kilpatrick et al.'s (2007) study, combined with the CAS (Mohler-Kuo et al., 2004), and SES (Koss et al., 1987) helped provide an understanding of not only the extent of sexual victimization among college women, but also help provide an understanding of substance use and incapacitation during these types of victimizations (see also: Carey et al., 2015).

Krebs et al. (2009) conducted another large-scale, albeit not nation-wide study, examining the extent of sexual victimization among college women. The College Sexual Assault questionnaire was administered to 5,446 female undergraduates from two large, public universities from the Midwest and Southeast. The Campus Sexual Assault Study (CSAS) found that 2.5% of students experienced a sexual assault victimization that involved the use of physical force. They also found that roughly 9% of respondents experienced a sexual assault since their enrollment that involved non-consent due to incapacitation. Furthermore, they reported that 2.2% of females in the sample experienced sexual assault that involved both physical force by the offender and incapacitation due to drugs and alcohol during their tenure at college; this last finding adds to the above studies concerning differences in types of rape and rape experiences.

Last, there are two nation-wide surveys that are administered to samples of college students each year, both of which can help understand the extent of sexual victimization among college students. First, one of the largest national-level studies on college students and their victimization experiences, as well as health and behaviors is conducted bi-annually by the American College Health Association (ACHA) (see: Chapter 3). Results from the Spring 2011 survey, which is comprised of 105,781 college students from 129 post-secondary institutions across the US reported that approximately 6% of the sample had experienced sexual assault

victimization, defined as “sexual touching without their consent” (ACHA, 2011, p.5). The ACHA also showed that roughly 4% of the sample had experienced a completed or attempted rape during the last 12 months. In comparison, the Core Alcohol and Drug Survey (2014) administered by Southern Illinois University Carbondale’s Core Institute is another large-scale survey of college students. Based on the 2011 to 2013 findings from the Core Institute, they found that 4.2% of respondents had experienced “forced sexual touching or fondling” while 2.7% of respondents had experienced “unwanted sexual intercourse.” However, it is important to note that neither of these studies are random samples of schools or students. Schools must self-select into each of the studies, and the sampling methods among those schools vary. For example, the ACHA only reports statistics for schools who use a random sample of students or who sample all students (ACHA, 2011, p. 18).

Student Versus Non-Student Sexual Assaults

The above studies have shown that there are varying rates of rape and sexual assault among college students; however the question arises, is it college that makes the students particularly vulnerable or is it something else? Based on the results of the 1995 and 2002 NCVS Baum and Klaus’s (2005) study examined roughly 37,000 college students and non-students in between the ages of 18 and 24 and found that rape and sexual assault was higher among non-students compared to students. However, this result could be due to the limitations of the NCVS and how rape and sexual assault are measured (Fisher et al., 2010, pgs. 73-74). Baum and Klaus (2005) used a very narrow definition based on the incident reports provided by the NCVS.

Similarly, Sinozich and Langton (2014) did a follow-up study using the same data from the NCVS, only this time reporting the findings from 1995 through 2013. The study shows that while overall, women between the ages of 18 and 24 report the highest rates of rape and sexual

assault, college women are less likely than their non-college peers in the same age category to be the victim of a sexual assault or rape. As with Baum and Klaus's 2005 study, Sinozich and Langton found that the rate of rape and sexual assault was 1.2 times higher for nonstudents (.76%) than for students (.61%). Interestingly, in 2013 there was no significant difference in the rate of sexual assault and rape based on enrollment status. Again, this difference can be attributed to the type and wording of the questions provided by the NCVS.

While the results from Baum and Klaus (2005) and Sinozich and Langton (2014) would suggest that college is not a risk factor, the limitations of the NCVS's measurement of rape can account for low rates of rape and sexual assault victimization being reported, likewise the sampling methods might also account for the differences in college women and non-college women reporting varying rates of rape and sexual assault (Sinozich & Langton, 2014, p.2; Fisher et al., 2010, Chapter 2). Likewise, neither study explicitly measured incapacitated rape and sexual assault nor did they examine facilitated or induced incapacitation. A more relevant and comprehensive study of college and non-college students' risk of sexual victimization was conducted by Kilpatrick et al. (2007).

Kilpatrick et al.'s (2007) study found that college students are at a greater risk of sexual assault victimization compared to their non-student counterparts. The comparison sample was comprised of women between the ages of 18 and 34 with younger women oversampled in order to assist in the comparison to college women (p. 12). The authors projected that the annual percentage of college women raped (5.2%) was more than five times higher than the statistics among comparable, non-college women (.9%). These findings persisted even when examining different forms of rape such as forcible and incapacitated rape.

Even still, Cass (2007) using the questions based on the NCVS screen questions, which might provide a more comprehensive understanding of prevalence rates, found a notably higher percentage of rape and sexual assault among college students than the NCVS when examining their incident reports. Thus, it is clear that college is a risk factor unto itself and that the methodological limitations of the NCVS contribute to their underreporting.

Most recently, Coker, Follingstad, Bush, and Fisher (2016) compared a national sample of 959 young women between the ages of 18 and 24 who had been in an intimate relationship within the last 12 months. The researchers compared rates—of partner violence (both sexual and physical), sexual harassment, and knowing or suspecting someone put drugs in their drink—between non-college women and college women to ascertain if there were any significant differences in rates of victimization between the two groups. The researchers found that there was no significant difference between the rates of sexual partner violence, physical partner violence, psychological partner violence, sexual harassment, or drugged drink. Based on these findings the researchers concluded that it is important to target all young adults with violence prevention and intervention, not just in educational settings, but also workplace and community-based settings.

Summary of Sexual Victimization Research

Estimates from the above large-scale and national-level surveys of college students vary significantly in their estimates of rape and sexual assault victimization. The results vary from less than that 1% (.15% for attempted rape, .2% for completed rape) prevalence of attempted and completed rape (Sinozich & Langton, 2014) to as high as 16.6% (Koss et al., 1987). In comparison, sexual assault varies from as little as .19% (Sinozich & Langton, 2014) to as much as 15.5% (Fisher et al., 1999). While the prevalence rates differ greatly across the studies, much

of this can be attributed to the differences among definitions and operationalizations of rape and sexual assault, reference periods, and sampling and survey question designs. Likewise the time, date, and the year the survey was administered may all impact the outcome of the study. For example, Kilpatrick et al. (2007) points out that between 1993 and 2007 there was a 27.3% estimated increase in the incidence of rape among women in the US (p. 57). Another example is derived from the ACHA (2011), they specifically state that universities may not want to administer their spring survey after spring break at their institutions because that may heavily impact estimates of binge drinking or assaults in the last year. Despite these differences there are some similarities and patterns that emerge among all of the studies.

The first pattern that emerges is that rates of rape and sexual assault are fairly consistent when operationalizations and the time frame of the studies are taken into consideration. For example, Cass (2007) and Kilpatrick et al. (2007) define sexual assault very similarly using concepts and wording such as “forced, coerced, unwanted sexual acts.” Likewise, they have very similar timeframes, six to nine months for Cass, and seven months for Kilpatrick et al. Given these similarities it is not surprising that Cass reported a 3.7% prevalence estimate for sexual assault and Kilpatrick et al. reported a 3% prevalence estimate for sexual assault. Fisher et al. (1999) and Baum and Klaus (2005) also report similar findings, but for rape victimization. Again, their operationalizations are very similar taking into account “unwanted completed or attempted, forced or coerced, sexual penetration.” Fisher et al. reported a .8% prevalence estimate and Baum and Klaus reported a .4% prevalence estimate. Again, when similar time frames and operationalizations are taken into account, there appears to be some consistency in the findings.

A second pattern emerges when operationalizations include broader definitions of sexual victimization, the prevalence estimates increase. For example, when Fisher et al. (1999) included threat of force, and not just attempted or completed force as part of their operationalization for sexual assault, prevalence estimates shot up to 15.5% for sexual assault victimization. Mustaine and Tewksbury (2002) also reported similar findings when they broadened their definition of sexual assault to include “sexual encounter where the respondent felt taken advantage of.” Their prevalence estimates suggest that about 10.8% of respondents felt they had been sexually assaulted.

Third, when examining the studies as a whole it is clear that students are at risk of experiencing a wide range of sexual victimization. While the extent of victimization will vary based on the operationalization, there is an evident proportion of college students who have experienced sexual assault victimization, such as sexual touching without consent all the way to incapacitated penetration. When examining a broad categorization of sexual assault compared to rape the proportion of respondents will be larger. Again, as Table 1.2 shows when a broader definition of sexual victimization is used the prevalence estimates increase. For example, including “sexual encounter where the respondent felt sexually taken advantage of” (Mustaine & Tewksbury, 2002) lends itself to a wider instance compared to “forced or coerced unwanted sexual acts” (Cass, 2007). Despite these methodological differences it is apparent that college students experience a broad-range of sexual victimization. Given that there are over 21 million students that attended US colleges during fall of 2014 (NCES, 2014), and if a notable proportion of those students are experiencing sexual victimization, there is a reason for administrators, policy makers, and university communities to be concerned with the extent of this problem.

In sum, the findings from these studies show that college students are a particularly vulnerable population when it comes to risk of rape and sexual assault. Given this vulnerability, as well as its extent, it is important to understand why this is occurring to help create policies to keep it from continuing. The lifestyles-routine activities approach has proved particularly helpful in understanding why these victimizations may be happening. Thus, it is important to examine the lifestyles and routine activities approaches to prevent sexual victimization from occurring across and among college students. Chapter 2 provides a discussion of the lifestyle-routine activities approach and a discussion of how it has been applied to college students. Currently, much of our understanding about sexual victimization among college students comes from these opportunity-based perspectives. Thus, it is important to understand how factors, which influence the risk of sexual victimization, have been tested and understood across samples of college students in order to understand the extent of sexual victimization and the populations affected.

CHAPTER 2

A THEORETICAL FRAMEWORK FOR UNDERSTATING VICTIMIZATION: LIFESTYLE-ROUTINE ACTIVITIES APPROACH

Using the lifestyle routine-activities approach researchers have found general and consistent support across multiple studies concerning victimization (Cohen, Kluegel, & Land, 1981; Kennedy & Forde, 1990; Lynch, & Cantor, 1992; Messner & Tardiff, 1985; Miethe & Meier, 1990; Miethe, Stafford, & Long, 1987; Sampson & Lauritsen, 1990; Sampson & Wooldredge, 1987; Spano & Freilich, 2009). The lifestyle routine-activity framework was developed by combining Hindelang, Gottfredson, and Garofalo's (1978) lifestyle-exposure theory and Cohen and Felson's (1979) routine-activities theory (Cohen et al., 1981). Both theories are labeled "opportunity theories" because they assume that victimization can only occur when certain elements—motivated offender, suitable target, and lack of capable guardianship—are present in both space and time. Likewise, each of these theories is based on the premise that risk of victimization is greatly influenced by the behavior of crime targets and as such victimization is non-randomly distributed.

Because of the overlap between these two theories, lifestyle-exposure theory and routine-activities theory are often combined into the lifestyles routine-activities framework. Since the development of these theories in the 1970s extensions have been presented. Both, lifestyle-routine-activities theory and the extensions of it have been prominent in victimology research and helping understand the factors that contribute to the risk of victimization (Cohen et al., 1981; Finklehor & Asdigian, 1996; Franklin et al., 2012; Schreck, 1999; Schreck, Stewart, & Fisher, 2006). This chapter will provide a discussion of lifestyle-routine activities framework, the framework from which college student victimization is most commonly tested. Also presented are the theoretical extensions to this theory to help understand victimization among college

students. Understanding how college student victimization has been examined will help lay the groundwork for expanding upon the current research *beyond the party lifestyles* and into understanding the importance of target congruence. Again, it is important to highlight that the current study will focus on the impact of target congruence measures on risk of victimization. However, as this chapter will show lifestyle-routine activities theory has proven incredibly influential and important to our understanding of risk of sexual victimization among college students, likewise, according to the theory of target congruence these factors may help expose or protect victims from possible victimization (Finkelhor & Asdigian, 1996).

Lifestyle-Exposure Theory

In 1978 Hindelang, Gottfredson, and Garofalo published *Victims of Personal Crime: An Empirical Foundation for a Theory of Personal Victimization*, presenting lifestyle-exposure theory. The authors, using data obtained from the National Crime Survey from 1972 to 1974, explain how victimization is not dispersed evenly across all populations; rather, young, male, African Americans are at a greater risk of victimization compared to other populations, such as older, white Americans. To account for these trends in victimization risk, Hindelang et al. (1978) assert that victimization is a function of lifestyle. Lifestyle then influences one's exposure to opportunities of victimization. Different lifestyle characteristics, which change based on various demographic variables (e.g. race, age, income) can account for exposure and risk of victimization. Thus, the authors concluded that an individual's lifestyle characteristics play a vital role in the risk of victimization.

Lifestyle, according to the authors, refers to an individual's daily—or routine—activities, including patterns associated both leisure and vocational activities. Leisure activities included items such as going to the movies and dining out, while vocational activities included items such

as work, school, and chores (p. 241). An individual's demographic characteristics influence their lifestyles and thus the opportunity structure and risk of victimization. For example, the specific features of lifestyles presumed to create more exposure to crime included the amount of time spent in public settings, especially during the evening. The author's postulate that time away from family or household members leads to a greater rate of proximity and association with high-offending groups; especially if that time away from the house is spent participating in "unstructured" activities in contrast to work or school, which are "structured" in nature (think of idle hands). For example, when discussing age Hindelang et al. point out that during childhood activities are highly structured and regulated, mostly pertaining to school or home. As a child grows they begin to spend more leisure time away from the home and into their teenage years they begin to spend much larger portions of time away from the home, out at night, increasing in their autonomy and thus exposing themselves to more offenders. However, once an individual begins to move into adulthood they begin to structure activities around work and home life again, reducing time spent away from the home and thus exposing themselves to less risk (p. 247-248).

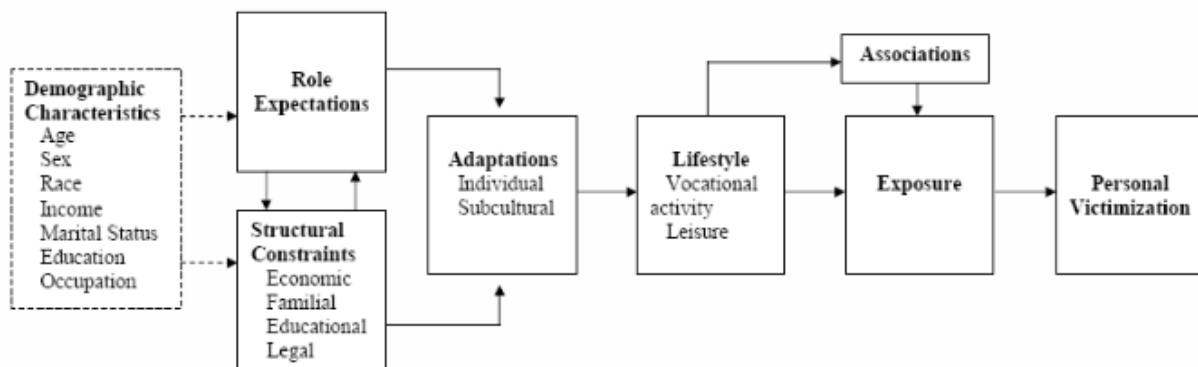
Using the above example and based on their propositions, Hindelang et al. (1978) state that individuals whose lifestyles keep them away from the home, spending more time in public, and away from non-family members (e.g. young, male, single) are more likely to be exposed to motivated offenders. Thus, individuals who are exposed to a larger number of motivated offenders are likely to experience a greater risk of victimization compared to those whose lifestyles that are centered toward the home and family (e.g. women, elderly, people with children, and married).

While Hindelang et al. (1978) presuppose that demographic characteristics can influence an individual's risk of victimization, the authors do not believe there is a direct relationship

between demographic characteristics and lifestyle; rather, it is a product of role expectations, structural constraints, and the adaptations that individuals make concerning demographic characteristics and lifestyle. This relationship is shown below in Figure 2.1.

Role expectations are “cultural norms that are associated with achieved and ascribed statuses of individuals and that define preferred and anticipated behaviors” (p. 242). In other words, behaviors that are defined as appropriate by society given a person’s demographic characteristics. The authors use the example of age to outline their point; they state someone who is a child would be expected to act in different ways, which are deemed appropriate or inappropriate. For example, society would deem it inappropriate for a mother of three to spend large amounts of time away from the home and at dance clubs. Thus, demographics can shape an individuals’ lifestyle; notably, as Figure 2.1 shows while demographic characteristics can help *influence* an individual’s role expectation the authors state that the dashed line between the demographic characteristics and role expectations is to show that demographics do not *cause* role expectations.

Figure 2.1: A Lifestyle/Exposure Model of Personal Victimization



From: Hindelang, Gottfredson, & Garofalo (1978). *Victims of Personal Crime: An Empirical Foundation for a Theory of Personal Victimization*.

The second constraint that Hindelang et al. discusses is that of structural constraints. Structural constraints are defined as “limitations on behavioral options that results from particular arrangements existing within various institutional orders, such as the economic, familial, educational, and legal orders” (p. 242). In other words, there are various factors—e.g. economic, familial, and education—which can support or impede different types of lifestyles. For example, economic factors can influence where a person is able to buy a house, the type of school district they live in and thus access to educational opportunities, which can then shape exposure and risk of victimization. Referring back to Figure 2.1, role expectations and structural constraints are reciprocally related. Thus, how an individual’s structural constraints change can influence their role expectations and vice versa.

After establishing constraints, Hindelang et al. state that individuals can adapt to these expectations and can do so at the individual and the subcultural level. The authors state that no matter how similar two individual’s demographic characteristics are, the individuals will differ in their beliefs and attitudes as well as skill level, which are shaped by constraints, and this too will shape their lifestyles. While acknowledging that individuals may vary in their adaptations bound by their constraints there is also a subcultural aspect where shared adaptations emerge. These shared and individual adaptations help account for similarities in lifestyles across demographic populations as well as between members of the same population (p. 244). Adaptation is important because it helps shape and create regularities in behavioral patterns—in turn these behavioral patterns become daily routines which constitute lifestyle.

One of the final items in their model is that of associations. At its core, associations are “sustained personal relationships” that arise because of similar lifestyles and shared interests (p. 245). According to the authors, associations can influence the amount of exposure a person has

to potential offenders. They go on to state that, “because offenders disproportionately have particular characteristics, association with people having these characteristics serves to increase personal victimization” (p. 245).

Thus, Hindelang et al. (1978) conclude that a person’s demographic characteristics can shape their role expectations and structural constraints, in doing so adaptations are formed, and certain lifestyles result. These lifestyles then lead to particular associations, which can then expose individuals to greater risk and potential of victimization. This theory is particularly compatible with the study of victims and is commonly used in the field of victimology because it highlights how a person’s leisure and vocational activities—in sum, lifestyle—can affect their risk of victimization. Also, as noted later it is easier to assume motivated offenders and change lifestyles of possible victims, making it particularly useful to studies of crime prevention.

Routine Activities Theory

A year after Hindelang et al. (1978), Cohen and Felson (1979) published, *Social Change and Crime Rate Trends A Routine Activity Approach*, which laid the groundwork for routine activities theory. In their seminal 1979 article the authors discuss how patterns of crime in the US changed post-World War II. They examined a nation-wide data sample using a time series analysis from the Uniform Crime Report (UCR) data between 1947 and 1974 in order to explain their theory of routine activities. Their theory is an aggregate-level theory of victimization that draws on human ecology theory, consumer trends, labor force participation, and household structure in order to explain the variations in US crime rates. The authors postulate that technological advancements and changes in social patterns led to an overall variation in society’s routine activities and as such a variation in crime rate trends followed.

Cohen and Felson (1979) suggest that crime is likely to occur when three factors converge in time and space: a likely offender, a suitable target, and the absence of a capable guardian (p. 588). The lack of any one of these elements is enough to keep a crime from occurring. They go on to suggest that activities away from the household and family generate more opportunity for crime to occur. These opportunities are not limited to violent, personal crimes, but also include property crimes. Cohen and Felson did not emphasize the characteristics of the offender but instead focused upon the situation. Unlike other theories prior to theirs, Cohen and Felson (1979) differ greatly because they do not attempt to explain why individuals are motivated to commit crime; instead, routine activities theory is classified as a theory about criminal events because it describes *how* a crime occurs and what elements must be present.

Cohen and Felson were particularly interested in explaining how crime rates changed over time. As discussed above, their macro-level analysis showed that there was an increase in crime during the post WWII years. Many criminologists during this time attributed the rise in crime rates to social problems in America and a greater amount of motivated offenders (Lilly, Cullen, & Ball, 2011, p. 333). However, Cohen and Felson contend that it was not a social problem per se; rather crime trends can be attributed to a “substantial increases in the opportunity to carry out predatory violation have undermined society’s mechanisms for social control” (p. 605).

The authors go on to explain that the prosperity felt by Americans in the post-WWII era was due to a major shift in routine activities. For example, more women joined the labor force and as such households were now earning double the income they were prior to WWII. However, this also meant that more people—both men and women—were leaving the house unattended more often and leaving it open to greater risk of property crimes due to a lack of

capable guardianship. Likewise, leaving the house more meant greater exposure to more potential offenders.

Cohen and Felson's theory is helpful in examining and understanding victimization because it takes into account how the lifestyles and routine activities of individuals can either increase or decrease their risk of victimization. The theory's focus on three elements converging in space and time is helpful in analyzing risk because it shows that crime is not necessarily based on societal characteristics such as economic inequality, rather it is based on the amount and type of opportunity available. Likewise, this theory is also particularly useful in helping develop crime-prevention programs given that offender motivation is taken as a given, focusing on the two other factors—guardianship and victims—which can easily be controlled has vast policy implications.

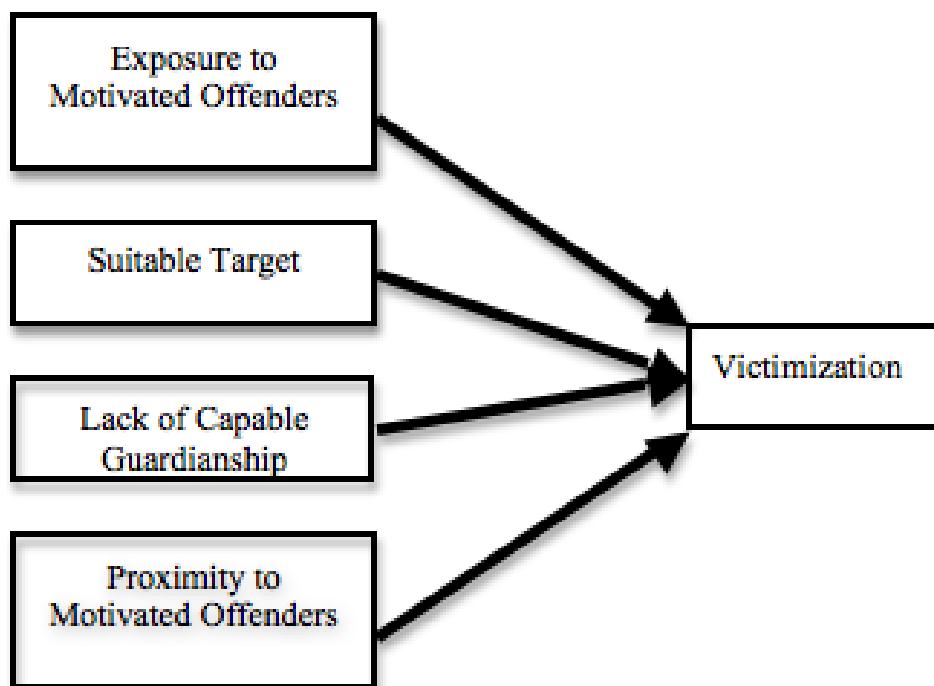
Lifestyle-Routine Activities Framework

Because of the shared assumptions and similarities between the two theories many victimologists have combined the theories of lifestyle-exposure theory and routine activities into lifestyle-routine activities theory (see: Garofalo, 1987). Borrowing from Cohen and Felson (1979), as well as Hindelang et al. (1978), Cohen, Kluegel, and Land (1981) detailed and outlined exactly what was meant by lifestyle-routine activities theory as well as its composite parts. The authors postulate that there are four specific concepts that contribute to victimization: proximity to crime, exposure to crime, target attractiveness, and lack of capable guardianship. Below is a brief discussion of these four theoretical concepts. These four concepts are illustrated in Figure 2.2 below.

First, proximity to crime is defined as the physical closeness of potential targets to a large number of offenders. Proximity can be increased when targets—either people or property—and

motivated offenders converge in both space and time (Hindelang et al. 1978; Cohen et al., 1981, p. 507). High-crime areas where people live, work, or socialize can increase the likelihood of victimization. Thus, greater exposure to potential offenders increases the probability of victimization and criminal offense (Spano & Freilich, 2009). While proximity was not discussed in Cohen and Felson's (1979) work and only tangentially referenced in Hindelang et al. (1978), Cohen et al.'s (1981) formulation of proximity is complimentary to the idea, found in both theories, that the closer an individual is in proximity to a large amount of offenders the greater their risk of victimization becomes.

Figure 2.2: Conceptual Model of Lifestyle-Routine Activities Approach



Exposure to crime is defined as one's accessibility or visibility to crime. Hindelang et al. specifically address exposure while Cohen and Felson (1979) did not; instead, Cohen and Felson discussed motivated offenders, which is similar in nature to exposure due to the idea that the

victim and the offender have to converge in space and time in order for a crime to occur.

Hindelang et al. (1978) state in their work that like proximity, exposure is expected to have a positive relationship with victimization; the greater a person's exposure, the greater the risk of victimization. In other words, individuals are at a greater risk of victimization when "routine activities and lifestyles place them in risky or vulnerable situations at particular times, under particular circumstances, and with particular kinds of persons" (Miethe & Meier, 1994, p. 48).

Cohen et al. (1981) identified two characteristics that make a target attractive: material and/or symbolic desirability and how easily the target can be accessed or obtained. According to Cohen and associates (1981), the more desirable a target is, the more likely they are to be victimized. Target attractiveness compares to Cohen and Felson's (1979) concept of a suitable target, which is predicted to have a positive relationship with victimization.

The final concept discussed by Cohen et al. (1981) is capable guardianship. Capable guardianship is defined as the ability of a person or object to prevent a crime from occurring (Madero-Hernandez & Fisher, 2013). The concept of guardianship was taken directly from Cohen and Felson's work on routine activities theory. Cohen and Felson argue that the absence—or lack—of a capable guardian will have a positive relationship with risk of victimization.

Last, the four concepts—proximity to motivated offenders, exposure to motivated offenders, target attractiveness, and lack of capable guardianship—Cohen et al. (1981) point out that each of these factors can have not only an independent effect on crime, but also a cumulative effect. In other words, increasing one or multiple risk factors may lead to an overall increase in victimization; however, decreasing one or multiple risk factors can lead to an overall decrease in victimization as well.

Empirical Support for Lifestyle-Routine Activities Theory

Since Cohen et al. (1981) first posited the lifestyle-routine activities framework for understanding victimization there have been numerous studies examining the relationship between the four different components of lifestyle-routine activities and risk of victimization. The support for a lifestyle-routine activities approach to understanding victimization is resounding, as many of the studies confirm that there is significant evidence that lifestyles and routines shape a person's risk of victimization (Cohen et al., 1981; Kennedy & Forde, 1990; Lynch, & Cantor, 1992; Messner & Tardiff, 1985; Miethe & Meier, 1990; Miethe et al., 1987; Sampson & Lauritsen, 1990; Sampson & Wooldredge, 1987; Spano & Freilich, 2009).

However, there has not been consistent support across concepts, which could be due to difference in opportunity for different types of crimes. For example, multiple studies have found support that proximity and exposure to motivated offenders significantly increases risk of either property or violent victimization (Cohen et al., 1981; Kennedy & Forde, 1990; Sampson, 1987; Sampson & Lauritsen, 1990). In contrast there is inconsistent support for target suitability and guardianship (Cohen et al., 1981; Lynch & Cantor, 1992; Massey, Krohn, & Bonati, 1989; Meire & Miethe, 1993). The next section will discuss the different empirical studies that have examined the relationship between lifestyle-routine activities and victimization using samples of college students, specifically in regards to sexual victimization.

RISK FACTORS FOR SEXUAL VICTIMIZATION AMONG COLLEGE STUDENTS

As discussed previously the rates of sexual victimization among college students varies widely. The nature and extent for victimization among college students had been estimated and studied using multivariate techniques in order to further explain risk of sexual victimization (Abbey, Ross, McDuffie & McAusuln, 1996; Banyard et al., 2007; Cass, 2007; Clodfelter et al.,

2010; Franklin, 2010a, 2010b, 2011; Franklin et al. 2012; Fisher et al., 1998, 1999; Gardella, Nichols-Hadeed, Mastrocinque, Stone, Coates, Sly, & Cerulli, 2015; Gidycz, Orchowski, King, & Rich, 2008; Hines et al., 2012; Marx, Nicholas-Anderson, Messman-Moore, Miranda, & Porter, 2000; Messman-Moore et al., 2008; Messman-Moore et al., 2013; Minow & Einlof, 2009; Mohler-Kuo et al., 2004; Mustaine & Tewksbury, 2002; Reed, Amaro, Matsumoto, & Kaysen, 2009; Scherer, 2011; Schwartz & Pitts, 1995; Turchick & Hassija, 2014; Ullman, Karabatsos, & Koss, 1999; Walker, Messman-Moore, & Ward, 2011). While many of these studies are tests of the lifestyle-routine activities framework, others are simply trying to identify attributes, characteristics, or behaviors that may influence a college students' risk of sexual victimization. Below is a discussion of the studies that have examined risk of sexual victimization and how they are explained from an opportunity-based perspective.

Before discussing the different studies it is important to note that varying definitions of sexual victimization were used in each study (for more see Chapter 1). "Sexual victimization" is a term that encompasses many different types of victimization. For example, rape and sexual assault can be defined as types of sexual victimization. Furthermore, rape may be defined as completed or attempted, incapacitated or forcible; while sexual assault may be sexual touching without consent or forced unwanted sexual acts. Because of the ability of "sexual victimization" to encompass many types of unwanted sexual behavior it will be used when referring to multiple studies. However, where specific studies are referenced their terms will be used and definitions of those terms will be provided.

Demographic Characteristics

Several studies have found that that there are particular demographic characteristics, which are significant predictors of sexual victimization among college students even when

accounting for lifestyle choices. Table 2.1 provides a summary of these characteristics and the corresponding studies. The first, and probably most consistent demographic characteristic appears to be sex. When examining rates of sexual victimization between males and females, females tend to show a significantly higher rate of victimization compared to males (Banyard et al., 2007; Cass, 2007; Gardella et al., 2015; Hines et al., 2012; Howard, Griffin, & Boekeloo, 2008; Reed et al., 2009). For example, Cass (2007) found that “being female increased the odds of sexual assault by a factor of 7.39” (p. 358) even when controlling for lifestyle variables. Gardella et al. (2015) found that college females were four times more likely to report being the victim of sexual assault compared to their male counterparts. Both Cass and Gardella et al. defined sexual assault as forced or coerced unwanted sexual acts.

More recently there has been an interest beyond examining sex as a main effect toward examining sex as a moderating factor among lifestyle-routine activities studies (Hines et al., 2012; Banyard et al., 2007; Tillyer, Wilcox, & Fialopsos, 2010; Popp & Peguero, 2011; Reyns, Henson, Fisher, Fox, & Nobles, 2016; Wilcox, Tillyer, & Fisher, 2009). There seems to be some support for the idea that lifestyle-routine activities factors do not uniformly effect risk of sexual victimization for males and females. However, only two of these studies on sex as a moderating factor have specifically examined a sample of college students (Hines et al., 2012; Banyard et al., 2007). Additionally, evidence on adolescents who have been sexually victimized (Tillyer et al., 2010; Popp & Peguero, 2011) or adults who have been victims of stalking (Reyns et al., 2016) have also contributed to this limited research. Using these studies there appears to be support for the fact that victimization does not operate uniformly across males and females, thus sex does act as a moderator. For example, Tillyer et al. (2010) state in their discussion:

Despite the general support for an opportunity model of school-based sexual victimization, several important gender differences emerged, indicating that perceived

opportunity for victimization does not operate uniformly for males and females. Notably, seven of the ten statistically significant gendered effects indicate that being female enhances the influence of risk factors and weakens the benefits of protective factors. [...] In particular, the role of a delinquent lifestyle in exposing students to opportunities for school-based sexual victimization is especially important for females. Across both sexual harassment and assault victimization, the effects of associating with delinquent peers, self-reported criminal behavior, and the use of tobacco, alcohol, and marijuana were significantly stronger for females (p.1079).

Reyns et al. (2016) also found support, albeit weak support, for the idea that victimization may be gendered, specifically stalking victimization. Three different lifestyle-routine activities variables preformed differently among males and females. For example, younger females were significantly more likely to experience stalking, while age was not a significant factor for males. Finally, Hines et al. (2012) and Banyard et al. (2007) also found supportive evidence for sex as a moderator among college students. Specifically, Hines and associates (2012) found women who reported more nights per week drinking and who were younger were at greater risk of victimization than their male counterparts. This relatively new research suggests that sex may not act only as a main effect, but that sex may also act as a moderator (for more on sex as a moderator and further discussion of some of the above studies please see Chapter 3).

Sexual orientation also appears to be a significant contributor for sexual assault victimization and rape. Fisher et al. (1999), Clodfelter et al., (2010), Hines et al. (2012), and Scherer (2011) found that students who reported being heterosexual had less risk of sexual victimization compared to those who reported being non-heterosexual (e.g. gay/lesbian, bisexual, or unsure of their sexual orientation). Hines et al. (2012) examined sexual assault victimization, defined as forced or coerced unwanted sexual acts. Hines et al. found that sexual orientation was one of the strongest demographic predictors of sexual assault among college males and that risk of sexual assault increased for both genders when they reported being non-heterosexual (for more on this relationship see Chapter 3).

Another extensively studied demographic characteristic concerning rape and sexual assault on college campuses is that of race. Several studies have found the non-whites tend to have higher risk of sexual victimization among college students (Clodfelter et al., 2010; Fisher et al., 1999); however, there is some contradictory evidence. The first study that examined the interplay between race and sexual victimization of college students was Koss et al. (1987). Koss et al. found that Native American college women reported the highest incidence of attempted and completed rape; however, white women had higher rates compared to African American, Hispanic, and Asian women. Fisher et al. (1999) examined several types of sexual victimization including completed and attempted rape, sexual threats, and sexual victimization with force; for these three types of sexual victimization Fisher et al. (1999) found that African Americans and Hispanic/Latinas were more likely to report a sexual victimization compared to white students.

In comparison, Mohler-Kuo et al. (2004) found that white females were more likely to report experiencing rape when intoxicated than non-white women. The authors state that this may be due to the pattern of heavy alcohol use among white college students, in comparison to non-whites (Wechsler, Davenport, Dowdall, Moeykens, & Castillo, 1994; Wechsler, Lee, Kuo, & Lee, 2000; Caetano, Clark, & Tam, 1998). It is important to note that Mohler-Kuo et al. (2004) did find that white women were less likely to report experiencing the other type of rape such as physically being forced or coerced into sex and threats of force, compared to women of other races. Similarly, in a study conducted by Gross, Winslett, Roberts, and Gohm (2006) the authors found significantly higher rates of physically forced sexual intercourse for African American women compared with white women. Likewise, Gardella et al. (2015) found race to be a significant predictor of sexual assault with white females at a greater risk compared to non-white females. Gardella et al. defined sexual assault as forced or coerced unwanted sexual acts.

However, Gardella et al. (2015) note that this is unusual and that maybe "... there is something about the university setting that places young, Caucasian females on *this* [emphasis added] campus at greater risk. It is possible that the student associations that provide ethnic minorities a sense of belonging are somehow protective for these women" (p. 652). However, despite these findings there does appear to be general support for the fact that non-whites are at greater risk of sexual assault than white students.

Table 2.1: Significant Demographic Predictors of Sexual Victimization Among College Students

Demographic Characteristics	Sexual Assault Victimization	Authors
Female	+	Banyard et al. (2007); Cass (2007); Gardella et al. (2015); Hines et al. (2012); Howard et al. (2008); Reed et al. (2009); Scherer (2011)
Heterosexual	+	Clodfelter et al. (2010); Fisher et al. (1999); Hines et al. (2012); Scherer (2011)
Non-White	+/-	Clodfelter et al. (2010); Fisher et al. (1999); Gardella et al. (2015); Krebs et al. (2009); Mohler-Kuo et al (2004)
Age	+/-	Clodfelter et al. (2010); Fisher et al. (1999); Scherer (2011); Ullman et al. (1999)
Year in School	+/-	Franklin (2010b); Gross et al. (2006); Krebs et al. (2009); Schwartz & Pitts (1995)

Also, age also has received mixed results in the empirical studies concerning college student sexual victimization. Linked to age is year in school, which also has received mixed support. Concerning age, multiple studies (Clodfelter et al., 2010; Fisher et al., 1999; Hines et al., 2012; Scherer, 2011) report a significant negative effect when examining age and sexual

victimization. In other words, as students get older they experience less risk of sexual victimization. In comparison, other studies have found that age and sexual victimization are positively correlated; such as Ullman et al. (1999) who found that older students were at a greater risk of rape victimization compared to younger students.

When examining year in school the findings are also mixed. Gardella et al. (2015) found a significant positive relationship between class year and sexual assault, with seniors being the most likely to experience sexual assault victimization compared to other class-years. Gardella et al.'s (2015) findings are consistent with Krebs et al. (2009) and Schwartz and Pitts (1995) who also found year in school to have a positive relationship with sexual victimization. In comparison to Gardella et al., Schwartz and Pitts (1995) and Krebs et al. (2009) examined both rape and sexual assault as well as examined forced and incapacitated assaults and rapes. However, Schwartz and Pitts (1995) point out this finding could be due to the fact that students who have been in school longer have had more time to be exposed to rape and sexual assault compared to newer students (p. 25).

In contrast, Gross et al. (2006) found that there were greater rates of sexual assault victimization—defined as sexual aggression—during freshman and sophomore years compared to other years, which Carey et al. (2015) posit may be due to some type of vulnerability among freshman compared to older students. Franklin (2010b) also had similar findings, reporting that there was a significant, negative relationship between year in school and likelihood of sexual assault. Franklin defined sexual assault as forced, coerced, unwanted sexual acts. Likewise, Fisher et al. (1999) found that undergraduates were more likely to experience completed or attempted rape compared to graduate students.

In sum, the above studies illustrate that there are specific demographic characteristics that have an impact on sexual victimization even when controlling for particular lifestyle characteristics. The above evidence supports the fact that non-white, females tend to have greater rates of sexual victimization. In comparison, heterosexuals tend to be at less risk for sexual victimization, while there are varying results regarding year in school and age. However, as pointed out above, the results concerning risk and age/year in school may be an artifact of the wording of surveys and study timeframes.

Proximity to Motivated Offenders

Multiple empirical tests have found evidence supporting the theory that dwelling type, size, and proximity to other residents is correlated with rates of victimization (Fisher et al., 1998; Sampson & Wooldredge, 1987; Miethe & Meier, 1994). As Table 2.2 illustrates proximity to motivated offenders in terms of sexual victimization among college students is oftentimes operationalized in the same manner as Fisher et al. (1998), based on living arrangements and amount of time spent on-campus. As posited by Cohen et al. (1981) it is assumed that those who spend more time in greater proximity to more motivated offenders are at an increased risk of victimization, in this case proximity would be highest when students are on-campus and motivated offenders are assumed to be other students.

In terms of sexual assault victimization and rape victimization Mohler-Kuo et al. (2004), Clodfelter et al. (2010), and Scherer (2011) all found support for the fact that those who live on-campus are at greater risk of sexual victimization. Specifically, Mohler-Kuo et al. (2004) found that living in a sorority house was a significant predictor for risk of rape victimization for women, independent of sorority membership. Scherer (2011) found that students that lived off-campus were significantly less likely to report sexual assault victimization—defined as unwanted

sexual touching—in comparison to those who live on-campus. Last, Clodfelter et al. (2010) found that students who spend their weekends on campus are at a great risk of sexual victimization, while Hines et al. (2012) and Franklin et al. (2012) found that people who reported spending more hours on-campus all had greater rates of sexual victimization.

Exposure to Motivated Offenders

In comparison to proximity, exposure to motivated offenders has been studied extensively in regards to sexual victimization of college students. Past research on exposure appears to favor four sub-categories that can influence risk of victimization based on routine activities and lifestyles: 1) risk-taking behaviors; 2) alcohol consumption and drinking behaviors; 3) college and school related activities; and 4) general leisure activities. Evidence shows that each of these sub-categories appears to have a significant impact on the opportunity for victimization, based on the idea that victims are more visible and accessible to a greater portion of motivated offenders (e.g. other college students). Table 2.2 outlines the four sub-categories.

Again, exposure to crime is defined as one's accessibility or visibility to crime. Hindelang et al. (1978) state in their work that like proximity, exposure is expected to have a positive relationship with victimization; the greater a person's exposure, the greater the risk of victimization. In other words, individuals are at a greater risk of victimization when "routine activities and lifestyles place them in risky or vulnerable situations at particular times, under particular circumstances, and with particular kinds of persons" (Miethe & Meier, 1994, p. 48). Each of these subcategories categories assume that when partaking in these "party lifestyles" and behaviors, discussed below, individuals are exposing themselves to certain types of people/offenders.

Risk-Taking Behaviors

To reiterate, all of the below risk-taking behaviors assume individuals that are partaking in such behaviors are putting themselves into particularly vulnerable situations, with other individuals thus exposing themselves to motivated offenders. For example, it is assumed based on the theory that individuals who use serious drugs are getting high most likely around other individuals, in risky situations, and thus exposing themselves to more motivated offenders. Another example is number of sexual partners, as the number of sexual partners increases for an individual so does the amount a person is exposing themselves to potential motivated offenders. Below is a discussion of the most common risk-taking behaviors as measures of exposure for examining sexual victimization among college students.

Both marijuana and other illicit drugs, such as opiates, hallucinogens, cocaine, and MDMA have all found significant, positive relationships in regards to rape and sexual assault victimization. Krebs et al. (2009), Hines et al. (2015), Turchik and Hassijia (2014), and Scherer (2011) all found that respondents who reported smoking marijuana were significantly more likely to be sexually victimized than those who did not report using marijuana. Each of the above authors in conjunction with Cass (2007), Mohler-Kuo et al. (2004), and Mustaine and Tewksbury (2002) also found that students who used illicit drugs were more likely to be sexually victimized than those who did not report using them. Other studies have focused on drug-market relationships and their impact on sexual victimization. For example, Mustaine and Tewksbury (2002) found that women who reported buying drugs in the past were more likely to experience sexual victimization (2002). Likewise, Franklin et al. (2012) found that people who reportedly participated in drug sales were at an increased risk of sexual victimization.

A second risk-taking behavior commonly studied involves risky sexual activities. Studies have examined number of sexual partners, use of contraception, and willingness to have sex with uncommitted partners. Small, medium, large-scale, and nation-wide studies have all found support that number of sexual partners greatly increases the risk of sexual victimization (Abbey et al., 1996; Benson, Gohm, & Gross, 2007; Franklin, 2010a, 2010b, 2011; Krebs et al., 2009; Messman-Moore et al., 2013; Scherer, 2011; Turchik & Hassija, 2014; Walker et al., 2011).

Along with number of sexual partners numerous studies have found a positive significant relationship between risky sexual behaviors and an increased risk of sexual victimization (Combs-Lane & Smith, 2002; Franklin, 2010a; Krebs et al., 2009; Turchik & Hassija, 2014). Risky sexual activities has been operationalized differently based on the study. For example, Turchik and Hassija (2014) found a significant risk associated with having sex with uncommitted partners, compared to those who only had sex with committed partners. Combs-Lane and Smith (2002) created a composite measure for risky sexual activities, using the Cognitive Appraisal of Risky Events (CARE) instrument (Fromme, Katz, & Rivet, 1997) their measure for risky sexual activity included those who reported having sex with someone they just recently met, sex without protection from STD's or pregnancy, as well as sex with multiple partners. Combs-Lane and Smith (2002) found there was a significant increase in risk of sexual victimization based on risky sexual behaviors. Overall, there is general support for the fact that students who participate in illicit drug use and risky sexual activity are exposing themselves to more potential offenders and thus are at a greater risk of sexual victimization.

Alcohol Consumption and Binge Drinking

As with risk-taking behaviors, it is assumed that individuals who drink and who drink a lot are at an increased risk of exposure to motivated offenders. According to lifestyle-routine

activities theory individuals who are drinking and getting drunk are putting themselves in vulnerable situations around and near other college students who are motivated offenders. Thus, the more an individual drinks, the more exposed to motivated offenders they become. Alcohol consumption and use has found consistent and ubiquitous support concerning the sexual victimization of college students. Small, medium, large, and nationwide studies have all found a positive, significant relationship between drinking and sexual victimization (Abbey et al., 1996; Banyard et al., 2007; Benson et al., 2007; Combs-Lane & Smith, 2002; Fisher et al., 1999, Gardella et al., 2014; Gidycz et al., 2008; Gross et al., 2006; Hines et al., 2012; Howard et al., 2008; Krebs et al., 2009; Marx et al., 2000; McCauley, Calhoun, & Gidycz, 2010; Messman-Moore et al., 2008; 2013; Minow & Einolf, 2009; Mohler-Kuo, 2004; Reed et al., 2009; Scherer, 2011; Schwartz & Pitts, 1995; Scribner, Mason, Simonsen, Theall, Chotalia, Johnson, Schneider, & DeJong, 2010; Turchik & Hassija, 2014; Ullman et al., 1999). Table 2.2 provides a breakdown of the studies that have examined binge drinking, alcohol consumption, and risk of sexual victimization. Table 2.2 also specifies study size for each of the studies examining drinking. These studies have examined not only sexual assault victimization and rape, but some have even examined the differences between intoxicated—also referred to as incapacitated—rape and forcible rape (Kilpatrick et al., 2009; Koss et al., 1987; Mohler-Kuo, 2007). Furthermore, studies show that there are differences between those who drink alcohol and those who choose to abstain from alcohol completely (Combs-Lane & Smith, 2002; Gross et al., 2006; Krebs et al., 2009).

There is also a notable difference between those who binge drink and those avoid binge drinking and risk of sexual victimization. While there is some disagreement on how binge drinking should be defined (De Jong, 2003; Bierness, Foss, & Vogel, 2004; Lange, Clapp, Turrisi, Reavy, Jaccard, Johnson, Voas, & Larimer, 2002; Lange & Vaos, 2001; Thombs, Olds,

Table 2.2: Significant Predictors of Sexual Victimization Among College Students

Concept		
<i>Category</i>		
Measure	Sexual Victimization	Authors
Proximity to Motivated Offenders		
<i>Housing</i>		
Living on Campus	+	Clodfelter et al., 2010; Fisher et al., 1999 Mohler-Kuo et al., 2004; Scherer, 2011
Lives in Sorority house	+	Mohler-Kuo et al., 2004
Spent Weekends on Campus	+	Clodfelter et al., 2010; Franklin et al., 2012
Exposure to Motivated Offenders		
<i>Risk Taking Behaviors</i>		
Marijuana Use	+	Gidycz et al., 2008; Hines et al., 2012; Krebs et al., 2009; Messman-Moore et al., 2008; Scherer, 2011
Illicit Drug Use	+	Cass, 2007; Combs-Lane & Smith, 2002; Hines et al., 2012; Howard et al., 2008; Mohler-Kuo et al., 2004; Mustaine & Tewksbury, 2002; Reed et al., 2009; Scherer, 2011; Turchik & Hassija, 2014
Number of Sexual Partners	+	Abbey et al., 1996; Benson et al., 2007; Franklin, 2010a, 2010b, 2011; Krebs et al., 2009; Messman-Moore et al., 2013; Scherer, 2011; Turchik & Hassija, 2014; Walker et al., 2011
Risky Sexual Activities	+	Combs-Lane & Smith, 2002; Franklin, 2010a; Krebs et al., 2009; Turchik & Hassija 2014

Table 2.2: Continued

Concept	Sexual Victimization	Authors
<i>Alcohol Consumption and Binge Drinking</i>		
Alcohol Consumption	+	<p>Small Scale Studies (N= >500): Benson et al., 2007; Combs-Lane & Smith, 2002; Gardella et al., 2014; Marx et al., 2000; McCauley et al., 2010; Messman-Moore et al., 2008, 2013; Mouilso et al., 2012; Schwartz & Pitts, 1995; Turchik & Hassija, 2014</p> <p>Medium Scale Studies (N= 500-3,000): Abbey et al., 1996; Banyard et al., 2007; Gidycz et al., 2008; Gross et al., 2006; Hines et al., 2012; Howard et al., 2008; Minow & Einolf, 2009; Reed et al., 2009; Scribner et al., 2010</p> <p>Large-Scale Studies (N= <3,000+): Fisher et al. 1999; Krebs et al., 2009; Mohler-Kuo et al., 2004; Scherer, 2011; Ullman et al., 1999</p>
<i>College- and School- Related Activities</i>		
Participation in Campus Activities:		Clodfelter et al., 2010; Franklin, 2010b; Hines et al., 2012;
Includes clubs/groups/organizations	+	Mustaine & Tewksbury, 2002
Member of a College Athletic Team	+	Mustaine & Tewksbury (2002)
Greek-Life Affiliation	+	Franklin, 2010b; Minow & Einolf, 2009; Mohler-Kuo et al., 2004; Scherer, 2011

Table 2.2: Continued

Concept		
<i>Category</i>	Sexual	Authors
Measure	Victimization	
<i>General Leisure Activities</i>		
Attends Greek-Life Parties/ Greek-Life Events	+	Combs-Lane & Smith, 2002; Krebs et al., 2009; Minow & Einolf, 2009; Ullman et al., 1999
Goes to the Movies	-	Mustaine & Tewksbury, 2002
Frequently Hangs Out/ Socializing/ Partying	+	Franklin et al., 2012; Hines et al., 2012; Mustaine & Tewksbury, 2002
Goes out at Night for Leisure	+	Mustaine & Tewksbury, 2002
Propensity to be at Places with Men	+	Fisher et al., 1999
<i>General Vocational Activities</i>		
Job/ Working	+	Scherer, 2011
Volunteering	+	Scherer, 2011
Target Attractiveness		
Relationship Status	+	Banyard et al., 2007; Cass, 2007; Combs-Land & Smith, 2002; Fisher et al., 1999; Franklin, 2010a, 2011; Scherer, 2011

Table 2.2: Continued

Concept		
<i>Category</i>	Sexual	Authors
Measure	Victimization	
Guardianship		
Carries Weapon/ Pepper spray	+/-	Clodfelter et al., 2010; Hines et al., 2012
Escorted to Car	-	Clodfelter et al., 2010
Lives Alone	+	Fisher et al., 1999
Had Someone walk them home after dark	+	Hines et al., 2012
Other Relevant Risk Factors		
Self Control		
	-	Franklin 2010a, 2011; Franklin et al., 2012
Sexual Assertiveness and Self-Efficacy		
	-	Kelley et al., 2015; Marx et al., 2001; Walker et al., 2011
Prior Victimization		
	+	Carey et al., 2015; Clodfelter et al., 2010; Fisher et al., 1999; Gidycz et al., 2001, 2008; Kelley et al., 2015; Krebs et al., 2009; Marx et al., 2001; Messman-Moore & Brown, 2006; Rothman & Silverman, 2007

& Snyder, 2003) most studies concerning college students and binge drinking define it using the 5+/4+ measure. The 5+/4+ measure was first introduced by Wechsler, Dowdall, Davenport, and Rimm (1995). The 5+ signifies five or more drinks for a male per occasion, and the 4+ signifies four or more drinks for a female per occasion. Wechsler et al. (1995) found that women have a much lower tolerance for alcohol, thus they can consume less while still having the same effects as men who consume more. This definition has been used in multiple studies to quantify binge drinking (Wechsler et al., 1995; Wechsler, Kuo, & Lee, 2000; Wechsler, Lee, Kuo, Selbring, Nelson, & Lee, 2002; Nelson, Naimi, Brewer, & Wechsler, 2005).

Concerning sexual victimization and binge drinking many authors have found a significant, positive relationship between binge drinking and sexual victimization. For example, Combs-Lane and Smith (2002), Howard et al. (2008), Moulso, Fischer, and Calhoun (2012), McCauley et al. (2010), Gardella et al. (2015), and Scherer (2011) found that binge drinking significantly increased the risk of sexual victimization. There have also been similar findings regarding risk of rape and binge drinking. Mohler-Kuo et al. (2004) and Messman-Moore et al. (2008; 2013) found that women who participated in occasional and heavy episodic drinking were at a greater risk of rape victimization compared to their peers who did not engage in this behavior.

Additional evidence suggests that not only does drinking and binge drinking have an impact on risk of sexual victimization, but so does simply being at places that serve alcoholic beverages. Again, the concept of exposure is meant to highlight one's accessibility or visibility to crime (Cohen et al., 1978). Thus, the more one goes out and drinks the more exposed they are to motivated offenders. For example, Fisher et al. (1999) found that respondents that reported being at places where alcohol was being served increased risk of experiencing unwanted sexual contact

and sexual contact with force. Likewise, the authors found that frequently drinking to get drunk increased risk of both sexual assault and rape victimization. In comparison, Schwartz and Pitts (1995) found that not only did number of drinks consumed impact risk of sexual victimization, but so did the number of times a week the respondent went out drinking. Schwartz and Pitts examined both rape and sexual assault as well as forced and incapacitate assaults and rapes. Overall, there is clear and convincing evidence that alcohol consumption and amount of consumption has a large impact on risk of sexual victimization.

College- and School- Related Activities

Another category of exposure is college- and school-related activities. These, too, can increase a student's risk of sexual victimization. According to the concept of exposure, the more time a student spends in contact with other individuals—even outside of party situations—the more exposed they are to motivated offenders. For example, Mustaine and Tewksbury (2002) found that being in a club, group, or organization increased risk of general and serious sexual assault. Interestingly, Hines et al. (2012) found that being apart of an environmental club had a positive correlation with sexual assault, while participation in other clubs, such as intramural sports or a cultural club, was non-significant in predicting sexual assault victimization.

Participation in Greek-life has also been a significant predictor of sexual victimization. Franklin et al. (2010b) and Mohler- Kuo et al. (2004) found a significant relationship regarding risk of rape and sorority membership. Similarly, Scherer (2011) found that being a member of a fraternity or sorority was a significant predictor of rape, but not sexual assault even when controlling for other lifestyle measures. In comparison, Minow and Einlof (2009) found that college women in sororities were four times more likely to report sexual victimization compared to those who were not in a sorority.

General Leisure Activities

The same assumptions for exposure concerning college- and school-related activities also applies to general leisure activities; it is assumed based on the concept of exposure that the more contact an individual has with others, the greater the risk of victimization because they are more exposed—or accessible or visible—to motivated offenders. Some of the different general-leisure activities that college students participate in that have reported a significant, positive relationship with sexual assault victimization vary. For example, some studies have found that going to Greek-life parties increased risk of victimization (Combs-Lane & Smith, 2002; Franklin et al., 2012; Krebs et al., 2009; Minow & Einolf, 2009; Ullman et al., 1999). In comparison, individuals who report spending more time socializing, going to parties—not necessarily Greek-affiliated, and “hanging out” report greater rates of sexual assault victimization (Franklin et al., 2012; Hines et al., 2012; Mustaine & Tewksbury, 2002). Other general leisure activities that have reported a significant positive relationship with sexual assault victimization include measures such as propensity to be at place with men (Fisher et al., 1999) and going out for a night of leisure (Mustaine & Tewksbury, 2002). However, Mustaine and Tewksbury (2002) found that respondents who frequently attended the movies were at less risk of sexual assault compared to those who did not frequently attend the movies.

Target Attractiveness

One of the most consistently used measures in testing target attractiveness is relationship status (Banyard et al., 2007; Cass, 2007; Combs-Land & Smith, 2002; Fisher et al., 1999; Franklin, 2010a; Franklin, 2011; Scherer, 2011). As Cohen et al. (1981) state there are two characteristics that make a target attractive: material and/or symbolic desirability and how easily the target can be accessed or obtained. Thus, it is assumed that individuals who are not in

relationships are easier to access and that there is some quality or characteristic that makes victims somehow more appealing to predators, in this case, being single. Relationship status has been operationalized differently across studies, from being single or married (Cass, 2007; Fisher et al. 1999), to being currently in a relationship or not in a relationship (Banyard et al., 2007; Scherer, 2011), and last, to risky-dating practices—or in other words, not being in a committed relationship, yet dating casually and going out frequently with different men (Combs-Lane & Smith, 2002). There is consistency across the above studies; there is a negative correlation between relationship status and risk of sexual victimization. Those who report being single are at greater risk of being sexually victimized, and even still, those who are married are less likely than those who have been dating—even when they report being involved in a committed relationship of more than a year (Fisher et al., 1999)—of reporting sexual victimization.

Guardianship

Last, guardianship has been conceptualized in many ways, from carrying a weapon, being escorted to a car, and finally as living alone. Cohen et al. (1981) conceptualized capable guardianship as the ability of a person or object to prevent a crime from occurring, under this definition it is assumed that individuals who carry weapons are better able to protect themselves against attack, and that people who travel in pairs or live with others have increased guardianship. More recently Hollis, Felson, and Welsh (2013) raised concerns about the operationalization of guardianship and how it has been changed and evolved over time. The authors argue that guardianship *should* have a “human presence that acts to reduce the likelihood of a criminal event occurring” (p. 74). However, studies have used different operationalizations such as target hardening and social control to operationalize guardianship. For example, some studies have operationalized guardianship in regards to carrying a weapon. For example,

Clodfelter et al. (2010) found that carrying pepperspray led to decreased risk of sexual victimization. In contrast, Hines et al. (2012) found that carrying a lethal weapon was positively correlated with risk of sexual assault. However, the results from Hines' study could be an artifact of their methods. Because Hines et al. (2012) used a cross-sectional study it is impossible to determine if those who reported experiencing a sexual assault since the beginning of the year were carrying a weapon on them at the time of the assault or if carrying a weapon is a result of the victimization experience.

Clodfelter et al. (2010) also found that individuals who reported being escorted to their car had a decreased risk of sexual victimization. In contrast, Hines et al. (2012) found that men who had someone walk them home after dark actually had an increased risk of sexual victimization. Another commonly used measure to operationalize guardianship is living alone. Fisher et al. (1999) found that women who reported living alone are at a greater risk of sexual victimization.

It is hard to establish temporal order regarding guardianship measures and risk of sexual victimization. As researchers point out (Miller, Hemenway, & Weschler, 2002; Tewksbury & Mustaine, 2003), there are differences between those who use self-protective measures and those who do not, and past victimization may be one of those differences. Fisher, Daigle, and Cullen (2010) found that those who used self-protective measures during a sexual assault were at a decreased risk of a future sexual assault. Despite the varying evidence regarding the relationship between sexual victimization and guardianship it is important to continue studying this concept in order to better understand what may help protect against risk of sexual victimization.

Other Relevant Risk Factors

While not specifically included in the lifestyle-routine activities framework, certain concepts have been discussed and introduced when examining sexual victimization among college students to help better understand and complete the picture of why sexual victimization is taking place. In particular, self-control, self-efficacy, sexual assertiveness, and prior/ repeat victimization have been analyzed. Self-control (see next section) variables predict that people with low self-control are more likely to be the victims of sexual victimization because they are more vulnerable to crime. Several studies have found support for the overall hypothesis that low self-control increases risk of victimization (Schreck, 1999; Schreck & Fisher, 2004; Schreck, Stewart, & Fisher, 2006) as well as support for the fact that low self-control specifically increases risk of sexual victimization among college students even when controlling for lifestyle-routine activities variables (Franklin, 2010a, 2011; Franklin et al., 2012).

Another measure concerning sexual victimization that has been tested is primarily concerned with self-efficacy and sexual assertiveness. These measures examine to what extent an individual tries to stop a sexual victimization from taking place. For example, Walker et al. (2011) asked questions about an individual's likelihood to refuse sex when they do not want to have it, despite the offenders insistence or whether a person is likely to engage in unwanted intercourse out of fear of hurting someone's feelings; while Marx et al. (2001) defined it as an individual's ability or belief that they could successfully resist forceful sexual advances. These studies find that individuals who are more sexually assertive or have greater rates of self-efficacy are less likely to be sexually victimized.

Last, prior-victimization has received widespread support for being one of the major risk factors for future risk of sexual victimization (Carey et al., 2015; Clodfelter et al., 2010; Fisher et

al., 1999; Gidycz et al., 2008; Kelley, Orchowski, & Gidycz, 2015; Krebs et al., 2009; Marx et al., 2001; Messman-Moore & Brown, 2006; Ross, Kolars, Krahn, Gomberg, Clark, & Niehaus, 2011; Rothman & Silverman, 2007). Most recently Carey and colleagues (2015) found that before college 18% of women in their sample reported either an attempted or completed incapacitated rape and 15% reported a completed or attempted forcible rape. Having a history of precollege incapacitated rape increased rates of both incapacitated and forcible rape during college, while a history of precollege forcible rape increased rates of college forcible rape. In comparison, Rothman and Silverman (2007) looked at risk of sexual victimization in pre- and post- test groups with a control group to see how a prevention program affected rates of sexual victimization among first year students. While their study found that rates of sexual victimization were lower among almost all of the students in the intervention group, students with a prior history of sexual victimization who were in the intervention group were actually more likely to report that they had been sexually victimized than those who had not been in the program. Likewise, those who had experienced prior sexual victimization were more likely than any other group to experience sexual victimization during their first year of college regardless of the intervention. It is clear that those who have experienced sexual victimization prior to college are at a greater risk of experiencing sexual victimization during college.

Conceptual and Operational Extensions of Lifestyle-Routine Activities Theory

There are several conceptual and operational extensions of the lifestyle-routine activities framework, which have been created to help understand victimization beyond opportunity structures. The extensions, discussed below, rely on characteristics of victims to help increase the explanatory power of lifestyle-routine activities framework in examining risk of victimization.

Self-Control Theory

Work by Schreck and his colleagues suggests that antecedents to opportunity, such as low self-control, social bonds, and peer influences, have also been found to be important predictors of violent and property victimization (Schreck, 1999; Schreck & Fisher, 2004; Schreck et al., 2006). Schreck (1999) tested the possibility that low self-control can also increase the risk of criminal victimization. For instance heavy drinkers are less able to defend themselves or their belongings. Thus, Schreck (1999) reformulated self-control theory into a theory of vulnerability to crime. He linked self-control to victimization with the elements of self-control theory: 1) degree of future orientation: people with low levels of future orientation are less likely to appreciate the potential long term consequences of their behavior; 2) empathy: a person with poor empathy has few friends or close personal relationships, thus they are less likely to know their next-door neighbors. This situation might decrease the guardianship; 3) tolerance for frustration: a person with low tolerance for frustration is quick to anger; 4) diligence: non-diligent people fail to lock their doors or take simple precautions against their personal victimization; 5) preference for mental rather than physical activity: people high in physical activity might choose to handle a hostile situation by adopting an aggressive approach and attacking; 6) risk avoidance as opposed to more inclined to be involved in thrill seeking activities.

In short, Schreck proposed that individuals who lack these six characteristics are at a greater risk for both personal and property victimization than individuals who have high levels of self-control. He used the 1996 Tucson Youth Project survey of undergraduate college students to test his hypothesis. He found that low self-control consistently had a significant direct effect on

the odds of personal and property victimization and substantially reduced the effects of gender and income.

Franklin's (2011) analysis of alcohol-induced sexual assault victimization among a sample of university women concluded that, despite the inclusion of several routine activities, opportunity, and demographic variables, self-control deficits significantly correlated with increased odds of sexual assault involving alcohol intoxication. In 2012, Franklin et al., again, used a sample of female university students to assess the applicability of routine activity theory and self-control on property, personal, and sexual assault victimization. Consistent with Schreck (1999), self-control deficits were significantly correlated with female victimization, regardless of type. Decreases in self-control resulted in increases in property, personal, and sexual assault victimization, even after controlling for situational factors relevant in the explanation of crime events such as exposure, guardianship, proximity, and target attractiveness. More specifically, results indicated that self-control deficits, participation in drug sale behavior, increased number of days spent on campus, and increased frequency of partying significantly increased sexual assault victimization, net of controls.

Feminist Theory

Schwartz and Pitts (1995) argued that women are more likely targets for sexual assault victimization because of the rape supportive culture, but they also noted, through an analysis of lifestyle that women have relatively higher risks for such victimization than others. In their study the lifestyles characteristics they examined are ones that frequently put women into contact with men when they are in vulnerable situations, such as getting drunk and getting drunk with men who they believe have gotten women drunk in the past in order to have sex with them. Schwartz and Pitts (1995) found that women who go out drinking often and women who are friends with

motivated offenders (e.g. men who get women drunk in order to have sex with them) are more likely than women who do not drink often, or spend time with motivated offenders to be sexually assaulted.

Target Congruence

Finkelhor and Asdigian (1996; see also Chapter 3) criticized the lifestyle-routine activity approach for not being able to explain acquaintance and intra-family victimizations. They specifically argued that lifestyle theory explanations have insufficiently conceptualized some important ways in which the personal characteristics of victims put them at risk for victimization. They suggested that individuals' personal characteristics might increase their vulnerability to victimization (e.g. adolescent females are congruent with the sexual orientation of most rapists) independent of any routine activities because these characteristics have some congruence with the needs and motives of offenders. They called this process target congruence. Target congruence can increase the risk of victimization in one of the three ways: 1) target vulnerability (e.e, small size, physical weakness); 2) target gratifiability (e.g., female gender, having valuable possession); and 3) target antagonism (e.g, being gay, black, etc.).

Finkelhor and Asdigian (1996) found that variables representing target congruence make an independent contribution to the prediction of victimization over the variables representing conventional lifestyle models. For sexual assault, target congruence variables related to vulnerability are represented by psychological distress, small size, overweight, and having a physical limitation. Female gender and age are conceptualized as target gratifiability variables. The analysis indicated that the target congruence variables were the most important contributors to predicting risk of sexual assault than the exposure and proximity measures in their model. Target congruence will be discussed more in depth in the next chapter.

Summary of Risk Factors and Related Extensions

It is clear that certain lifestyles and routine activities have a significant impact on the risk of sexual assault victimization. Specifically, research shows that there is a clear link between “party lifestyles” and risk of sexual assault victimization among college students. The wide ranging research concerning drinking, amount of drinking, drug use, and the amount of time spent at parties is fairly conclusive regarding risk of sexual assault among college students. Likewise, while there appears to be empirical support for the extensions of lifestyle-routine activities theory—such as target congruence and feminist theory—and their ability to predict risk of sexual assault, the applications of these extensions has not been tested widely among college students.

In sum, the lifestyle-routine activities framework has proven to be a helpful tool in understanding the nature of sexual victimization across samples of college students. However, extensions of the lifestyle-routine activities approach have only just begun to understand how certain target characteristics, such as low self-control or target congruence affect victimization risk. Chapter 3 addresses why there is a need to extend the already well-supported lifestyle-routine activities approach past party lifestyles and into understanding risk not only as a function of opportunity, but also as a function of personal characteristics.

CHAPTER 3

VICTIMIZATION AND TARGET CHARACTERISTICS: UNDERSTANDING THE IMPORTANCE AND APPLICATION OF TARGET CONGRUENCE

As discussed previously, the lifestyle-routine activities framework has proven to be a useful approach from which to understand the sexual victimization of college students. However, this perspective does have its limitations. First, many students participate in party lifestyles without being victims of crime, let alone victims of sexual victimization. It is estimated that four out of five college students drink alcohol (NIAA, 2013) and that 40% of students are binge drinkers while another 13% report being heavy drinkers (Substance Abuse and Mental Health Services Administration, 2013).

Second, lifestyle-routine activities theory was designed for, and has been best at explaining, risk of victimization concerning predatory crimes (Finkelhor & Asdigian, 1996, p. 4). It is important to note that a large percentage of sexual victimization is happening at the hands of family members, intimate partners, and acquaintances. Between 2005 and 2010 over half (55%) of sexual assaults and rape occurred at or near—within one mile—of the victim's home, while 12% occurred at or near a relative, friend's, or acquaintance's house (National Intimate Partner and Sexual Violence Survey [NISVS], 2010). Likewise, according to the Center for Disease Control (NISVS, 2010) among female rape victims, perpetrators were most likely to be intimate partners (51.1%) or someone the female was acquainted with (40.8%), family members (12.5%), and strangers (13.8%). Thus, as operationalized by Cohen et al. (1981) exposure would assume that being outside of one's house would increase risk of victimization; however, if sexual victimization is taking place at or around a victim's residence then something other than party lifestyles may be contributing to college students' risk of sexual victimization.

This chapter outlines how targets have been redefined in order to better understand why some victims may be at a greater risk of sexual victimization beyond the lifestyle-routine activities framework. First, a more in-depth explanation and exploration of target congruence will be presented (Finkelhor & Asdigian, 1996). Next, a discussion of how the theory of target congruence has been tested will be presented; specifically, how the concepts have been defined and operationalized will be discussed. Last, a discussion of the importance of expanding upon the earlier work of Finkelhor and Asdigian (1996) as well as other studies that have examined some of the same operationalizations of target congruence will be provided.

RECONCEPTUALIZING TARGETS

Cohen and Felson (1979) explained how potential targets might be more amenable to victimization based on their symbolic or financial value. Finkelhor and Asdigian (1996) expanded upon this idea stating that certain attributes of victims may increase risk of victimization because they have “some congruence with the needs, motives, and reactivities of offenders” (p. 6). In other words, there are certain personal characteristics, which may increase the risk of victimization for some individuals beyond lifestyle characteristics, and thus make certain individuals more vulnerable to crime. Finkelhor and Asdigian called this process target congruence; they state that based on the idea of target congruence there are at least three ways or concepts that individuals are at increased risk of victimization: target vulnerability, target gratifiability, and target antagonism.

Finkelhor and Asdigian (1996) define target vulnerability as the characteristics of a victim, which may make them less able to resist or deter victimization. To operationalize target vulnerability the authors used measures concerning small size, psychological distress, and physical weakness. While small size and physical weakness clearly lend themselves to this

operationalization, psychological distress is less straightforward. Psychological distress may be an indicator of underlying issues concerning trauma, indicating prior victimization (p. 10).

Likewise, individuals who feel hopeless or depressed may manifest their symptoms in physical ways. For example, loss of appetite, inability to sleep, suicidal thoughts, and chronic fatigue have all been linked to depression and anxiety (Trivedi, 2004). As Finkelhor and Asdigian (1996) point out, individuals suffering from psychological distress, and given some of their physical manifestations, may be less likely or able to resist an attack.

The second concept—target gratifiability—is defined as an individual’s characteristic that may increase their risk of victimization because of the “quality, possession, skill or attribute that an offender wants to obtain, use, have access to, or manipulate” (p. 6). In the case of sexual victimization one operationalization for target gratifiability would be sex. Being female may increase risk of victimization because the quality or characteristics of being female fulfills the needs of the offender.

Last, Finkelhor and Asdigian (1996) outline their concept of target antagonism. These are qualities, characteristics, or attributes, which increase or arouse, jealousy, anger, or destructive impulses by the offender. The authors state that hate crimes based on ethnicity or race may be good indicators of target antagonism; likewise, sexual orientation may also be an antagonizing characteristic. Finkelhor and Asdigian (1996) go on to point out that physical, mental, and psychological disabilities may also be antagonistic characteristics, which may increase risk of victimization. They state that the burden of the disability on loved ones may make individuals with disabilities more vulnerable because the disability itself may manifest itself in frustration and anger towards the victim.

Finkelhor and Asdigian's (1996) work specifically focused on the sexual victimization of youth. However, their concepts have been applied to different studies across varying populations and using different operationalizations. The next section will elaborate on the above concepts, their operationalizations, and the best way to understand victimization across these populations. Last, this chapter will discuss how these concepts may be applied to sexual victimization risk across college students. Before beginning it is important to note that the discussion of target congruence does not discount opportunity structures completely. Finkelhor and Asdigian emphasize that it is still important to include opportunity variables (which they refer to as environmental factors) in the overall understanding and models concerning victimization. Again, when addressing samples of college students party lifestyles has well documented and wide-ranging support; thus, when looking at the studies below their inclusion of relevant lifestyle measures is noted.

Target Vulnerability

As discussed above, target vulnerability is linked to a victim's inability to resist or deter victimization. Finkelhor and Asdigian (1996) used several measures to operationalize target vulnerability; specifically, small size, psychological distress, and physical weakness. These measures are not only suitable for addressing vulnerability among youth, but also among college students. Several national and large-scale studies have examined the risk of sexual assault victimization within the context of target vulnerability. Table 3.1 outlines the studies, sample type, operationalizations, as well as the results of these studies. However, there is a dearth of information regarding how these measures might affect college populations; thus, smaller scale studies (N<3,000) which examine relevant measures among college students, or similar populations, have also been included in Table 3.1.

Physical Size

Size can significantly impact an individual's ability to resist or deter crime from occurring. However, operationalizing "size" can be difficult. Finkelhor and Asdigian (1996) operationalized size using a measure of physical stature. Because the authors were working with youth, physical stature was broken down based on categorizations of height and weight norms for youth. Based on the concept of target vulnerability and its operationalization of size, children and adults who are either under or overweight may not be able to resist or deter crime given their physical constraints. However, Finkelhor and Asdigian did not have any significant findings regarding size and risk of victimization.

While the current study also will examine size, Body Mass Index (BMI) will be used to measure physical stature in the current study (see Chapter 4). Only one such study has examined whether BMI is correlated with risk of sexual assault. Smith, Markovic, Danielson, Matthews, Youk, Talbott, Larkby, and Hughes (2010) looked at both childhood and adult sexual abuse in women who had a BMI equal to or greater than 30. Women who experienced sexual assault as children were significantly more likely to have a higher BMI during adulthood than those who did not. However, the authors did not find an increased risk of sexual assault among respondents with a BMI of 30 and over. The authors did not test for being underweight and what effects that might have on sexual assault victimization.

Along the same lines as Finkelhor and Asdigian (1996), Augustine, Wilcox, Ousey, and Clayton (2002) tested target congruence while using lifestyle-routine activities variables for controls. Again, the sample was not comprised of college students, but rather middle- and high-school students. The authors used sex and age as a proxy measures for size. The authors found that only age among high school students was a significant predictor of violent victimization.

Physical Limitations and Impairments

Finkelhor and Asdigian (1996) also examined physical limitations and impairments when examining risk of sexual victimization. Again, this assumes that individuals who suffer from some type of physical limitation or impairment are unable to easily resist or deter crime due to their impairment. In their study, Finkelhor and Asdigian (1996) asked questions concerning difficulty with seeing, hearing, and range of motion; as well as concerning muscular-skeletal problems and medical issues, such as asthma, which may reduce an individual's physical stamina. Multiple national and large-scale studies have found a link between physical disabilities and sexual assault victimization between both adult (Young, Nosek, Howland, Chanpong, & Rintala, 1997) and adolescent/ youth populations (Alriksson-Schmidt, Armour, & Thibadeau, 2010; Bones, 2013; Brownlie, Jabbar, Beitchman, & Atkinson, 2007). The studies in Table 3.1 represent studies that have examined not only the victimization of individuals with disabilities, but specifically studies that have controlled for relevant variables in the lifestyle-routine activities framework.

Finkelhor and Asdigian (1996) found that there was a negative correlation between sexual victimization risk and physical limitations for youth. This is in direct contrast to their hypothesis that there would be a positive correlation. The authors do not offer an explanation for why this may be the case. However, they do note that there is a significant positive correlation between parental assault—another independent variable in their study—and physical limitations.

In comparison, Tillyer, Tillyer, Ventura, and Pangrac (2011) also looked at youth in a data set across roughly 4,000 middle- and high- school students. Tillyer et al. did not find any significance between violent victimization and physical limitations while controlling for several

Table 3.1: Studies of Relevant Target Congruence Measures

Concept				
<i>Operationalization</i>				
Author (Year)	Operationalization of Relevant Measures <i>Relevant Controls</i>	Victimization Type	Sample Type (n)	Results
Target Vulnerability				
<i>Size</i>				
Finkelhor & Asdigian (1996)	Comparison groups based on national averages for height and weight <i>Lifestyle-Routine Activities Variables</i>	Sexual Victimization	Youth (2,000)	NS
Augustine et al. (2002)	Age and sex were used as proxy measures <i>Lifestyle-Routine Activities Variables</i>	Violent Victimization	Middle- and High-School Students (3,000)	Only age among high-school students was a significant predictor, negative correlation
Smith et al. (2010)	Obese/ Overweight: BMI greater than or equal to 30 <i>Mental Health and Sexual Orientation</i>	Sexual Victimization	Adult Females (1,008)	Women who were obese reported significant, positive correlation with lifetime sexual abuse and childhood sexual abuse, but no significant findings for adult sexual abuse
<i>Physical Limitations and Impairments</i>				
Finkelhor & Asdigian (1996)	Difficulty with seeing, hearing, and range of motion <i>Lifestyle-Routine Activities Variables</i>	Sexual Victimization	Youth (2,000)	Negative significant correlation
Scherer (2011)	Difficulty with seeing, hearing, and range of motion <i>Lifestyle-Routine Activities</i>	Sexual Victimization	College Students (20,486)	Positive significant correlation

Table 3.1: Continued

Concept				
<i>Operationalization</i>				
Author (Year)	Operationalization of Relevant Measures <i>Relevant Controls</i>	Victimization Type	Sample Type (n)	Results
Tillyer et al. (2011)	Has difficulty using limbs: Uses a brace, cane, or crutches <i>Lifestyle-Routine Activities</i>	Violent Victimization	Middle- and High-School Students (3,989)	NS
Bones (2013)	Physical limitations; Visible signs of physical limitation Isolation, emotional and physical abuse, past offending, and drug use	Sexual Victimization	Youth (3,346)	Positive significant correlation
<i>Psychological Distress</i>				
Boney-McCoy & Finkelhor (1995)	Psychological Functioning: defined by SCL-90-R. Questions concerning underlying anxiety issues; sadness, measured by the amount youth felt sad in the last month <i>Parent-child relationship</i>	Sexual Victimization	Youth (2,000)	Positive significant correlation for both PTSD and sadness
Gidycz et al. (1995)	Psychological Adjustment: defined by BDI and BAI. Questions concerning underlying depression and anxiety issues. <i>Alcohol use, sexual partners, and quality of family environment</i>	Sexual Victimization	College Women (796)	Psychological adjustment was a significant predictor at different follow-up periods, but not all
Finkelhor & Asdigian (1996)	Psychological Distress: defined by SCL-90-R. Questions concerning underlying anxiety issues. <i>Lifestyle-Routine Activities Variables</i>	Sexual Victimization	Youth (2,000)	Positive significant correlation

Table 3.1: Continued

Concept				
<i>Operationalization</i>				
Author (Year)	Operationalization of Relevant Measures <i>Relevant Controls</i>	Victimization Type	Sample Type (n)	Results
Rich et al. (2005)	IES; BDI-II; IIPP: Questions concerning underlying depression, PTSD, and socialization	Sexual Victimization	College Women (551)	Predictive, positive, reciprocal relationship between interpersonal problems and sexual assault victimization
	<i>History or victimization and CTS</i>			
Huerta et al. (2006)	Psychological Distress: BSI. Questions concerning being distressed or bothered	Sexual Victimization	College Women (1,455)	Positive significant correlation
Kuara & Lohman (2007)	BSI-18: Questions concerning depression and anxiety	Dating Violence Victimization	College Students (645)	Positive significant correlation for both depression and anxiety
	<i>Acceptability of violence and relationship satisfaction</i>			
Messman-Moore et al. (2008)	Trauma Symptom Inventory and Cognitive Distortions Scale. Questions concerning dissociation, self-esteem, and depression	Rape/ Sexual Coercion	College Women (339)	Positive significant correlation between depression, self-criticism, and verbal sexual coercion
	<i>Drinking Habits and Sexual Behavior Functioning</i>			
Gidycz et al. (2008)	National Youth Risk Behavior Survey. Questions including suicidal ideation	Sexual Victimization	College Women (540)	Positive significant correlation
	<i>Other health risks including: smoking, drug use, and heavy episodic drinking</i>			
Cuevas et al. (2009)	Psychiatric Diagnosis: OCD, PTSD, depression, anxiety, et.	Sexual Victimization	Youth (2,030)	NS; except for positive significant correlation between flashing/exposure and psychiatric diagnosis

Table 3.1: Continued

Concept				
<i>Operationalization</i>				
Author (Year)	Operationalization of Relevant Measures <i>Relevant Controls</i>	Victimization Type	Sample Type (n)	Results
Scherer (2011)	Mental Disability: Included diagnosed psychiatric conditions	Sexual Victimization	College Students (20,486)	Positive significant correlation
<i>Eating Disorders</i>	<i>Lifestyle-Routine Activities Controls</i>			
Hall et al. (1989)	Bulimia and anorexia	Sexual Victimization	Female Patients (158)	Positive significant correlation
Silverman et al. (2001)	Vomiting or laxative use to lose weight	Sexual Dating Violence	High School Females (2,186)	Positive significant correlation
Greko et al. (2005)	Anorexia nervosa, bulimia nervosa, and binge-eating disorder	Childhood Sexual Abuse	Female Patients (299)	Positive significant correlation
Huerta et al. (2006)	Disordered Eating: Questions concerning using laxatives, diuretics, or vomiting to control weight	Sexual Harassment	College Women (1,455)	Positive significant correlation
Gidycz et al. (2008)	National Youth Risk Behavior Survey. Questions including vomiting or using laxatives and diet pills to lose weight	Sexual Victimization	College Women (540)	Positive significant correlation
	<i>Other health risks including: smoking, drug use, and heavy episodic drinking</i>			

Table 3.1: Continued

Concept				
<i>Operationalization</i>				
Author (Year)	Operationalization of Relevant Measures <i>Relevant Controls</i>	Victimization Type	Sample Type (n)	Results
<i>Failing Grade</i>				
Finkelhor & Asdigian (1996)	Failing Grade <i>Lifestyle-Routine Activities Variables</i>	Sexual Victimization	Youth (2,000)	Positive significant correlation, but only tested for non-family sexual assault
Huerta et al. (2006)	GPA	Sexual Harassment	College Women (1,455)	Negative significant correlation
Scherer (2011)	C or below average grade; reference group= A/B average <i>Lifestyles-Routine Activities Variables</i>	Sexual Victimization	College Students (20,486)	Positive significant correlation
Jordan et al. (2014)	GPA <i>History of sexual assault</i>	Sexual Victimization	College Women (750)	Positive significant correlation
Cardella et al. (2015)	GPA; reference group=3.61-4.0 GPA <i>Lifestyle-Routine Activities Variables</i>	Sexual Victimization	College Students (479)	Students whose GPA was 1.01-2.80 reported a positive significant correlation
Target Antagonism				
<i>Sexual Orientation</i>				
Balsam et al. (2005)	Gay, Lesbian, Bisexual, and heterosexual <i>History of abuse and violence, family size, and interaction effects</i>	Sexual Victimization	Adults (1,245)	Positive significant correlation; type of victimization experience and odds ratio differed based on bisexual/ homosexual orientation

Table 3.1: Continued

Concept				
<i>Operationalization</i>				
Author (Year)	Operationalization of Relevant Measures <i>Relevant Controls</i>	Victimization Type	Sample Type (n)	Results
Martin et al. (2011)	Lesbian and bisexual; reference group=heterosexual's without history of sexual assault <i>History of sexual assault</i>	Sexual Victimization	College Women (5,439)	Positive significant correlation
Menning & Holtzman (2013)	Gay, Lesbian, Bisexual; varying references groups depending on model type	Sexual Victimization	College Students (342)	Positive significant correlation depending on type of victimization and varying subgroup
<i>Ethnicity</i>				
Pegrero (2013)	Immigrant generations <i>Lifestyle-Routine Activities Variables</i>	Violent Victimization	High-School Students (12,040)	Positive significant correlation between violent victimization and first and second generation immigrant populations, but not between third generation

lifestyle-routine activities variables. Tillyer et al. postulate that students who have visible disabilities may protect themselves or be “better guarded” in certain ways than adolescents who do not have physical disabilities and that these measures for protection were not included in the study (p. 2922).

More recently, Scherer (2011) conducted research on the risk of sexual assault and stalking victimization among college students (N=20,486) with mental and physical disabilities. Prior to her research, no other studies had examined the risk of sexual assault between a national-level sample of college students and its relationship with physical and mental disabilities. Her study found that even when controlling for lifestyle-routine activities variables, college students with physical and mental disabilities were at a greater risk of sexual assault victimization than those who did not report having a disability. Her work also found that there was a positive relationship between number of disabilities, type of disability, and risk of sexual victimization. When examining physical disabilities, her work included individuals who reported having trouble seeing, hearing, or issues with mobility.

Last, Bones (2013) also conducted a national-level study to explore the relationship between sexual victimization and physical limitations. He asked about visible indicators of physical impairments including the use of canes or crutches to help with mobility. Unlike the work of Finkelhor and Asdigian (1996) and Tillyer et al. (2011), Bones did find a significant positive correlation between physical disabilities and sexual victimization among a sample of youth. While his study did not specifically control for lifestyle-routine activities variables, he did control for relevant variables including drug use, past offending, and past abuse.

Psychological Distress

Psychological distress is included as an operationalization of target vulnerability given that individuals who suffer from mental health issues may not be able to deter or resist victimization as easily as someone who does not suffer from mental health problems. Before discussing psychological distress variables, there are issues concerning temporal order that need to be addressed. Many of the studies concerning sexual assault victimization and psychological distress examine post-assault mental health outcomes (Richmond, Elliott, Pierce, Aspelmeier, & Alexander, 2009; Zinzow, Armstadter, McCauley, Ruggiero, Resnick, & Kilpatrick, 2011). Likewise, the cross-sectional, retrospective nature of most studies limits the understanding of variables, such as depression and eating disorders that can be both risk factors and sequelae of sexual victimization (Messman-Moore et al., 2008, p. 1731).

For example, Richmond et al. (2009) found that college women who had reported polyvictimization and childhood sexual victimization were more likely to report psychological distress than college women who did not report either type of victimization. Likewise, Zinzow et al. (2011) found that women who reported forcible rape were over three times as likely as nonvictims to meet lifetime criteria for both Post-Traumatic Stress Disorder (PTSD) and Major Depressive Episodes (MDE), even while accounting for history of revictimization.

It is clear that a history of rape and sexual assault can strongly influence an individual's future mental health, psychological distress, and overall wellbeing. As shown above, mental health is not just influenced by victimization, but also revictimization. Given the fact that college students are at a heightened risk of being subjected to repeat sexual assault victimization (see Table 2.1), it is important to account for mental health variables regardless of temporal order. In other words, if college students who exhibit mental health or psychological distress have a

history of sexual victimization, there is evidence that there is an increased risk of being victims, again while in college (Rich, Gidycz, Warkentin, Loh, & Weiland, 2005).

Even still, those who currently exhibit mental health disorders or psychological distress regardless of past victimization may be at an increased risk of sexual assault given that, according to theory, they are more vulnerable targets. This is particularly relevant when examining college students. Studies have found that academic and economic pressure as well as the accessibility to college can increase levels of psychological distress (Flatt, 2013). For example, Furr, Westefeld, McConnell, and Jenkins (2001) found that 53% of college students in their survey reported increasing depressive symptoms since beginning college. The authors found that academic problems were the greatest contributor to the rise in depression among their sample. Even still, universities are seeing an increase in students reporting overall mental health disorders and psychological distress (Center for Collegiate Mental Health, 2014). Given the fact that college itself can create an environment that can induce psychological distress and based on theoretical assumptions, it is assumed that those who have higher rates of psychological distress, regardless of past sexual assault, will be at greater risk of sexual victimization.

Returning to studies that have examined psychological distress among samples that have been victims of sexual assault, psychological distress has been defined either based on reported underlying symptoms that may be indicative of distress or based on reported mental illness as defined by entities such as the American Psychological Association (APA) and the Diagnostic Statistical Manual-Revised (DSM-R). For example, Finkelhor and Asdigian (1996) defined psychological distress by creating a composite measure from the 10-item Symptom Checklist-90-Revised (SCL-90-R). Their measures included questions like difficulty falling asleep, feeling irritable, and inability to control anger. They found a significant relationship between

psychological distress and sexual assault victimization even when controlling for lifestyle-routine activities factors. This measure was also used by Boney-McCoy and Finkelhor (1995) which resulted in similar findings.

Gidycz et al. (1995) found that women who experienced childhood sexual assault had an increased risk of sexual assault during college as well as reported increased mental health problems. Gidycz and colleagues used the Beck Depression Inventory (BDI) and the Beck Anxiety Inventory (BAI) to measure underlying anxiety and depression issues and create a measure of psychological adjustment to understand ability to cope with sexual victimization as well as the impact it may have on future victimization. Women who reported an inability to cope as a result of sexual victimization during one follow-up period reported greater rates of sexual victimization compared to those who were better able to cope with their victimization experiences. Likewise, Gidycz et al. (1995) indicated that depression may increase risk for victimization more broadly defined, but may not increase risk for rape specifically. However, Gidycz et al. cautions that more work needs to be done before drawing any firm conclusions.

Probably one of the most telling studies regarding risk of sexual assault and the reciprocal effects of past victimization, psychological distress, and future risk is Rich et al.'s (2005) study of sexual victimization among college women. Rich et al. operationalized psychological distress using several measures including the Beck Depression Inventory II (BDI-II), like Gidycz et al. 1995, as well as the Impact of Event Scale (IES), and the Inventory of Interpersonal Problems (IIP). Rich et al. found that there was a predictive, positive correlation between interpersonal problems and sexual assault victimization; however, some of the other measures, such as anxiety and stress, were not significant in their ability to predict risk in the overall model.

Huerta, Cortina, Pang, Torges, and Magley (2006) defined psychological distress using the Brief Symptom Inventory (BSI). This measure asked about distress or feeling bothered during the previous seven days. Huerta et al. found that that sexual harassment and psychological distress were positively correlated among a sample of college women. Kuara and Lohman (2007) also used the BSI to discern underlying depression and anxiety issues among college students and like Huerta et al. (2006) found that both depression and anxiety were positively correlated with dating violence victimization. However, neither study controlled for lifestyle-routine activities variables, which may influence outcomes.

Messman-Moore et al. (2008) found that certain aspects of psychological functioning were risk factors for victimization among a sample of college women. Specifically, self-esteem, in the form of self-criticism, increased risk of verbal sexual coercion in respondents. While impaired self-reference—e.g. difficulties with self-confidence, identity, and boundaries—increased risk of both verbal sexual coercion and rape. The authors also found that depression increased risk of victimization, but may not increase risk of rape specifically. Relevant controls, concerning the lifestyle-routine activities framework, included drinking behaviors and sexual functioning.

Gidycz et al. (2008) used the National Youth Risk Behavior Survey (NYRBS) to examine multiple concepts and their association with risk of sexual victimization, which include health-risk behaviors. Of particular interest to psychological distress was their measure of suicidal ideation. College women with a history of moderate or severe sexual victimization were 2.11 and 3.16 times more likely, respectively, than were women without a history of sexual victimization to contemplate suicide in the year prior to the survey administration. In the bivariate results, while not controlling for past victimization, suicidal ideation predicated risk of victimization in

follow-up periods. Gidycz et al. included relevant controls for other health-risk behaviors such as heavy episodic drinking, drug use, and number of sexual partners.

Cuevas, Finkelhor, Ormrod, and Turner (2009) examined self-reported diagnosed psychological disorders and found no significant correlation among psychological disorders and sexual victimization among a sample of youth. However, Cuevas et al. postulate that their findings might be an artifact of the methods and reporting for this study. For example, younger children were not allowed to self-report and instead parents reported for them. Cuevas et al. point out that the lower response rate, particularly for younger children, may have impacted the overall power of the model (p. 648).

Returning, again, to Scherer (2011), her study examined mental illness and sexual assault victimization among college students. Like Cuevas et al. (2009) Scherer used self-reported diagnosed disorders as her measure. Scherer found that college students who self-reported being diagnosed with mental illness—defined as anxiety, depression, schizophrenia, bi-polar disorder, etc— within the last 12 months had greater risk of sexual assault victimization including rape and unwanted sexual touching than those that did not report suffering from mental health disorders. Her study also used lifestyle-routine activities measures as control variables.

Eating Disorders

Eating disorders are a proxy measures for psychological distress, given that eating disorders may be a sign of mental illness. Likewise, eating disorders also have significant impact on an individual's overall physical health. People with eating disorders, shown below, are usually less physically healthy and strong. Given that individuals with eating disorders may be manifesting their psychological distress in this manner and that they are physically weaker, they

may be vulnerable targets that are unable to resist or deter victimization for two reasons, not just one.

While no study has specifically addressed eating disorders from the framework of target congruence, many studies have found a link between eating disorders and sexual assault victimization (Hall, Tice, Beresford, Wooley, & Hall, 1989; Silverman, Raj, Mucci, & Hathaway, 2001; Greko, Hughes, Hamill, & Waller, 2005; Huerta et al., 2006; Gidycz et al., 2008). Again, as a measure for target vulnerability, eating disorders are particularly relevant due to the fact it can indicate underlying issues concerning psychological distress, physical weakness, and physical stature. Like psychological distress variables there are issues concerning temporal order when examining eating disorders. However, as discussed above that does not mean that eating disorders should be dismissed; specifically due to the possible reciprocal nature of this variable and the effect it has on sexual victimization. Second, college student populations are at an increased risk of developing eating disorders. Epidemiological research denotes elevated prevalence of eating disorders amongst college students; thus there is reason to believe that the eating disorder may already be present before the victimization occurs (Fairburn & Beglin, 1990).

Table 3.1 outlines the published studies that have examined eating disorders and risk of sexual victimization. Only two such studies have specifically looked at a sample of college students (Huerta et al., 2006; Gidycz et al., 2008), and only one study included relevant lifestyle-routine activities measure as control variables (Gidycz et al., 2008). Because of the lack of information regarding college student samples, sexual assault victimization, and eating disorders Table 3.1 also includes several studies, which have linked sexual assault to eating disorders among varying samples of individuals.

One of the first studies to examine the prevalence sexual victimization among individuals who reported having eating disorders was done by Hall and colleagues (1989). Hall et al. examined the nature of sexual abuse among women admitted to an eating-disorder unit. Roughly 50% of those who reported issues with bulimia and anorexia—types of restrictive eating disorders—reported a history of sexual abuse, which was significant compared to those who did not report sexual abuse and type of disorder. According to a review of the literature on sexual victimization and eating disorders conducted by Connors and Morse (1993), roughly 30% of eating disorder patients reported having experienced sexual victimization as a child, similar results were found by Gerko et al. (2005). Greko and colleagues found that roughly 30% of women diagnosed with restrictive subtype anorexia nervosa, bulimia nervosa, and binge-eating disorder had suffered a history of sexual victimization.

Silverman, Raj, Mucci, and Hathaway (2001), Huerta et al. (2006), and Gidycz et al. (2008) all defined disordered eating based on reports of vomiting, laxative, or diuretic use to control or lose weight. All of the above studies reported a positive significant correlation between disordered eating and sexual victimization. Gidycz et al. included relevant control variables for other health-risk behaviors, such as heavy episodic drinking, drug use, and number of sexual partners while the other studies did not.

Failing Grade

Like eating disorders, failing grades may be an indication of underlying psychological distress thus they may prove to be a good proxy measure of psychological distress (Jordan, Combs, & Smith, 2014). Again, individuals who are psychologically distressed may be more vulnerable because they cannot resist or deter offenders as easily as someone who may not have the same levels of psychological distress. Finkelhor and Asdigian (1996) included having failing

grades as a measure for target vulnerability, but only in their examination of the independent variable of non-family assault, not sexual victimization. They found that there was a positive correlation between failing grade and non-family violence. Table 3.1 provides an overview of published studies that have examined failing grades and sexual victimization among samples of college students. Other than Finkehor and Asdiagian (1996) studies were selected if they examined the college student samples, and analyzed the relationship between GPA and sexual victimization. Failing grade has been operationalized based on self-reports of numerical GPA or the students reported letter grade average. Like psychological distress variables and eating disorders there are issues concerning temporal order when examining GPA. However, as discussed above that does not mean that GPA should be dismissed; specifically due to the possible reciprocal nature of this variable and the effect it has on sexual victimization.

Huerta et al. (2006), using structural equation modeling, examined how sexual harassment ultimately affected academic performance operationalized as GPA. Moderating and mediating variables were used to ascertain the effect sexual harassment had on GPA; some of the variables examined included psychological distress, disordered eating, and physical illness. Huerta et al. (2006) found that sexual harassment did have an impact on female college students' overall GPA. However, these results should be examined with caution; given the cross-sectional nature of Huerta et al.s' study, the authors made large assumptions about mediating effects, and which came first: the harassment, the grades, or the distress. In comparison, Scherer (2011) and Gardella et al. (2015) also found a positive significant correlation between GPA and sexual victimization while controlling for lifestyle-routine activities variables.

Age and Year in School

Age and year in school also may reflect target vulnerability. Younger students or newer (freshman) students may be more vulnerable because they are unsure or unaware of their surroundings. The findings regarding age and year in school are not reported on Table 3.1, these items are often added to analyses of sexual assault among college students as demographic controls. For a discussion of age and year in school and their impact on risk of sexual victimization see Table 2.1.

Summary of Target Vulnerability Measures

In sum, there is evidence that suggest certain target vulnerability measures are better predictors of victimization than others. For example, physical size has largely gone untested, specifically among college samples; however, in the few tests that have been done regarding size there appears to be no significant relationship between size and risk of sexual victimization. In comparison, studies examining physical limitations that use lifestyle-routine activities variables as control measures have had varying results. Scherer (2011) and Bones (2013) found that having a physical disability significantly predicted sexual victimization even when controlling for relevant lifestyle-routine activities measures. In comparison, Finkelhor and Asdigian (1996) found negative significance, which is in direct contrast to their theory, while Tillyer et al. (2011) reported no significance.

In contrast to physical size and physical limitations, psychological distress—defined either through mental health diagnoses or through tests of underlying symptoms—show that there is a strong connection between this measure and sexual victimization. Many of these studies do stress the sequale nature of physiological distress, past victimization, and future victimization; nonetheless, there does appear to be a strong connection between the two. Eating

disorders as an indicator of psychological distress and physical stature do indicate increased risk for sexual victimization as well. In comparison only one study as examined the risk of sexual victimization when looking at being overweight, Smith et al. (2010) did not report a greater risk among individuals with a BMI greater than or equal to 30.

Last, failing grades in school also appear to be another strong indicator of possible psychological distress, which may increase risk of sexual victimization. Of the four studies focusing on college populations (Gardella et al., 2015; Huerta et al., 2006; Jordan et al., 2014; Scherer, 2011), failing grades were a significant predictor of sexual victimization. Likewise, three of the five studies controlled for lifestyle-routine activities variables and still found positive, significant relationships. These finds show that GPA may not only be a sign of psychological distress, but also a risk factor for sexual victimization.

Target Gratifiability

Chapter 2 addressed many of the target gratifiability measures that are assumed to predict sexual victimization. Finkelhor and Asdigian (1996) predicted that sex of the victim would increase risk of victimization, depending on type of victimization. For example, females are typically the targets of sexual assaults because they meet the offenders' needs. In other words, male offenders are interested in women, so women are the targets of sexual victimization. For more on sex and its relationship with sexual victimization among college students see Table 2.1. As Table 2.1 shows there is clear and convincing evidence that women are typically the targets of sexual assaults among college students.

Furthermore, there is some evidence that sex operates as—not only a main effect—but also as a moderator for target congruence measures. There is some recent, tentative support for the idea that sex is a moderator when examining lifestyle-routine activities frameworks (Tillyer

et al., 2010; Popp & Peguero, 2011; Reyns et al., 2016; Wilcox et al., 2009; Hines et al., 2012; Banyard et al., 2007). There is also some—albeit limited—support for idea that sex may act as a moderator for target congruence measures. Studies on sex as a moderator for target congruence measures include studies on physical disabilities (Scherer, 2011; Bones, 2013) and sexual orientation (Menning & Holtzman, 2013; Hines et al., 2012).

When examining sex as a moderator for physical disabilities, Scherer (2011) found some, albeit limited, support. For example, Scherer (2011) found that sex did not operate as a moderator for sexual assault victimization and rape concerning type of disability (e.g., physical, visual, hearing); however, it did operate as a moderator for stalking and individuals with physical disabilities as well as for individuals who reported having two or more types of disabilities. Specifically, her results found that males with physical disabilities experienced an increased risk of stalking victimization in comparison to females with and without physical disabilities (p.151). Furthermore, while both females and males with disabilities are at an increased risk of stalking, the risk is more pronounced among males.

Unlike Scherer (2011), Bones (2013) found evidence that physical disabilities do differentially effect risk of sexual victimization among males and females. The gender of the victim played a significant role in the risk of violent and sexual victimization in his study. A visible signifier of disability (eg., cane, crutches, wheelchair, etc.) predicted a higher risk of violent victimization in general, but his analysis showed that this form of impairment only significantly affects women when parsing out the effects of a total sample into a male-only and female-only subsamples. Thus, the evidence is varied on whether sex acts as a moderator for individuals with physical disabilities and their risk of sexual victimization.

When examining sex as a moderator for sexual victimization and sexual orientation there is some support for the idea that sex does impact men and women differentially. Menning and Holtzman (2013) found that non-heterosexual men are at a greater risk of sexual victimization than non-heterosexual women. Menning and Holtzman (2013) state:

Sexual minority status mattered for the experience of unwanted sexual contact and attempted rape—homosexual and/or bisexual individuals were at greater risk of these types of assault than were heterosexual individuals. However, much of this association seems to be limited to males. When we considered the effects of sexual orientation by biological sex, no differences emerged for women—bisexual and lesbian women were as likely as heterosexual women to experience an assault. Bisexual and gay men, however, were significantly more likely than heterosexual men to experience unwanted sexual contact and completed rapes, bisexual men were at greater risk of unwanted oral sex, and gay men were much more likely to face an attempted rape. In short, sexuality was an important predictor of risk for men and it influenced the kinds of assaults they were apt to experience (p. 1082).

Furthermore, Hines et al. (2012) also found evidence that non-heterosexual males have a more pronounced risk compared to non-heterosexual females. Thus, there is reason to believe that sex may be a moderator concerning target congruence measures—specifically sexual orientation and possibly physical disabilities—and risk of sexual victimization. However, given that this evidence is somewhat limited it is important to examine if sex does, indeed, act not just as a main effect, but also as a moderator.

Target Antagonism

Like target gratifiability many of the variables that would be used to measure the concept of target antagonism have already been discussed in Chapter 2. These variables include race and sexual orientation. Operationalizations of target antagonism would and should include qualities, characteristics, or attributes, which increase or arouse, jealousy, anger, or destructive impulses by the offender (Finkelhor & Asdigian, 1996). Thus the most common among those studied would be sexual orientation and race.

However, there are some important distinctions that can be made regarding both of these categories. First, regarding sexual orientation, few studies have gone past the heterosexual/non-heterosexual dichotomous understanding of sexual orientation. Research is just now beginning to show that distinctions between types of non-heterosexual orientation may be particularly useful in understanding risk of sexual victimization. Second, in regards to race, no studies have examined how international student status may impact risk of sexual assault victimization, instead studies tend to focus on race and not immigrant status; below is an exploration of both of these concepts beyond the information that was presented in Chapter 2 and Table 2.1.

Sexual Orientation

Research that does account for sexual orientation shows that sexual minority students are at a higher risk of sexual assault than heterosexual students; however, most of these studies focus on lesbian student respondents (Duncan, 1990; Martin, Fisher, Warner, Krebs, & Lindquist, 2011; Rothman & Silverman, 2007; Smith et al., 2010). When examining sexual orientation, studies that have gone past the heterosexual and non-heterosexual dichotomous understanding of sexual orientation have found that a third category—bisexual has been particularly prevalent in its ability to predict risk of sexual assault. In 2010, the National Intimate Partner and Sexual Violence Survey [NISVS] conducted by the CDC showed that bisexual men and women reported significantly higher lifetime sexual assault and rape prevalence rates than lesbian, gay, or heterosexual individuals. For example, the report states that the lifetime prevalence of sexual violence other than rape for women was 43.3% for heterosexual women, 46.4% for lesbians, and 74.9% for bisexual women (NISVS, 2010, p. 1).

Target antagonism states that there may be characteristics or attributes of victims, which increase or arouse, jealousy, anger, or destructive impulses by the offender. Finkelhor and

Asdigian (1996) specifically state that sexual orientation—as well as race and ethnicity—may be a particularly antagonizing characteristic. Yet, being bisexual may be even more antagonistic based on the fact that bisexuality has been stigmatized not just amongst heterosexual populations, but also amongst the gay and lesbian communities. For example, in a survey of undergraduate students, Friedman, Dodge, Schick, Herbenick, Hubach, Bowling, Goncalves, Krier, and Reece (2014) found that heterosexual respondents were the most likely to not view bisexuality as a legitimate sexual orientation; even still, there was a significant number of self-identified lesbian and gay respondents who also agreed with this statement. Freidman and colleagues also have taken their work off-campus and explored this perception among a larger sample. They found similar results, with 15% of the heterosexual respondents stating that they did not believe bisexuality was a legitimate sexual orientation (2014).

Because of the possible differences between incidences of sexual victimization between specific sexual orientation types it is important to further examine the differences in sexual victimization among these particularly vulnerable populations. Again, sexual orientation has mostly been examined from the heterosexual/ non-heterosexual standpoint, Table 2.1 and Chapter 2, outlines those studies. However, there are a few studies, highlighted in Table 3.1, which do give some indication of the differences in prevalence of sexual victimization between the gay/lesbian community and bisexual community compared to just non-heterosexual/ heterosexual samples. Yet, there is still a dearth of information regarding these subpopulations.

First, Balsam, Beauchaine, and Rothblum (2005) examined the lifetime victimization of lesbian/gay, bisexual, and heterosexual adults; they found that sexual orientation was a significant predictor of most types of victimization including rape and sexual assault. The authors found that while there was a significant difference between almost all types of

victimization between heterosexual and non-heterosexual populations the results were not as pronounced between bisexual and gay/lesbian respondents. However, the authors did find that bisexual respondents were significantly more likely to be the victims of coerced non-intercourse (eg. sexual assault) and rape in adulthood than gay/lesbian respondents.

Martin, Fisher, Warner, Krebs, and Lindquist (2011) examined the rates of sexual assault victimization both prior to- and during college among bisexual, lesbian, and heterosexual women. Prior to college bisexual women were the most likely to report experiencing sexual assault (25.4%) compared to lesbians (22.4%) and heterosexual women (10.7%) in the sample. After starting college bisexual women were still the most likely to report experiencing sexual assault (24%) compared to lesbians (17.9%), and heterosexual women (13.3%). However, sexual assault before college was linked to sexual assault during college for all women in the study, with this association being especially pronounced among non-heterosexuals—bisexual and lesbian women.

Menning and Holtzman (2013) examined the differences between certain types of sexual victimization among a sample of gay, lesbian, and bisexual college students. Their sample was comprised of 344 respondents from a Midwestern University. They found that women who reported being bisexual or lesbians were 2.5 times more likely to be subjected to unwanted sexual contact compared to the men in their study, while homosexuals, regardless of gender, were twice as likely to experience sexual victimization than heterosexuals in their sample. While their findings varied based on type of sexual victimization (e.g. unwanted oral sex, sexual contact, and unwanted intercourse) as well as the difference between men and women, the authors found that bisexual men had greater odds of experiencing unwanted oral sex, nearly six times greater than the odds for heterosexual men.

International Student Status

While Finkelhor and Asdigian (1996) point out that race and ethnicity may be antagonistic characteristics they do not make a distinction between race and immigration. As Table 2.1 shows there are many studies that address race and rate of sexual assault victimization; however, there have been no studies that have examined the impact of international student status on risk of sexual victimization while at university in the US. Several small scale studies (Flack, Kimble, Campbell, Hopper, Petercă, & Heller, 2014; Hummer, Pedersen, Mirza, & LaBrie, 2010; Kimble, Flack, & Burbridge, 2013) have found there was a high prevalence rate of sexual assault victimization while studying abroad. The rates of students who were sexually assaulted while studying aboard in these small-scale studies are comparable to students living domestically, even with shorter study periods. Flack et al. (2014), Kimble et al. (2013), and Hummer et al. (2010) all postulate that students' lack of familiarity with the culture and possibly a greater reluctance to go to local authorities make female students attractive targets. However, the risk of sexual assault among populations of study abroad students residing in the US has yet to be examined in published studies. One study does examine the complex issue regarding race, generational status, and lifestyle-routine activities, see Table 2.1.

Peguero (2013) examined first, second, and third generation immigrant youth to see if there was a difference in rates of violent and property victimization and how lifestyle-routine activities may influence those rates of victimization. Peguero defined violent victimization as threats of harm, physically being harmed, and someone using forceful methods to take money or items from the respondent, while property victimization was defined as having something stolen or the respondent's property was purposefully damaged. Peguero (2013) hypothesized that first generation immigrants may be at less risk of either type of victimization given the close bonds

and insulating nature of these families' relationships on victimization. Likewise, first generation immigrants may be less likely to participate in lifestyles and routine activities that increase risk of victimization such as sports, due to a limited understanding of the culture and inability to communicate effectively. Peguero found that certain lifestyles and routine activities did increase risk of violent and property victimization across the different generations depending on participation in particular routine activities. For example, first and second generation youth who participated in school-based sports activities were at an increased risk of violent victimization, while third generation students were not.

International student status may be an important factor to consider when examining risk of sexual assault on college campuses because, outside of race, there is something else that sets these students apart whether it may be a potential language or cultural barrier. Likewise, these populations may need more support, from a policy perspective, if a sexual victimization does take place so that they have effective and necessary resources to deal with a sexual assault. However, as Peguero points out international students may be less likely to participate in lifestyles that increase opportunity of victimization.

Summary of Target Antagonism Variables

While there have been many studies conducted on race and sexual orientation their impact on risk of sexual victimization, research on sub-categories such as international student status or specific types of sexual orientation, is lacking. Chakraborti and Garland (2012) warn that when researchers group hate crimes together they are failing to understand the nuances that take place among specific sub-populations, and thus failing to understand vulnerabilities and differences, which might lead to an inability to create effective policy. "Generalizing about diverse populations—or relying on empty notions of 'community'—instead of considering the

discrete experiences of those who fall within the parameters of a particular group label tells us little about their particularities and the context behind their vulnerability” (Charkraborti & Garland, 2012, p. 504). Given that research has just begun to show the differences in victimization among types of sexual orientation and international student status has not been explored, these meaningful differences might help account for understanding the relationship between target antagonism and sexual victimization.

Summary of Target Congruence Variables

There is mixed evidence concerning target congruence variables and their ability to predict victimization. Likewise, the measures, variables, and sample populations and sizes vary widely which makes understanding risk of victimization based on target characteristics difficult to fully grasp. When examining target vulnerability psychological distress—operationalized in several different ways—and physical limitations appear to be strong predictors of sexual victimization; however, few studies concerning these measures adequately control for lifestyle-routine activities measures. In comparison, little is known about physical stature. The evidence on target amenability and target antagonism has been widely studied when examining age, year in school, and sex; yet, little research exists on specific sub-categories such as specific type of sexual orientation.

CURRENT STUDY

The purpose of this dissertation is to examine the relationship between all four concepts of lifestyle-routine activities and all three concepts of target congruence and risk of sexual victimization. Understanding the risk factors that contribute to sexual victimization among college students can help create and guide effective policies aimed at preventing victimization. Based on the published studies discussed in this chapter, it is plausible that there may be a

relationship between target congruence and sexual victimization. However, few of the published studies have a theoretical basis for their understanding of sexual victimization, nor do they adequately control for lifestyle-routine activities variables.

Currently, no published study has applied all four concepts of lifestyle-routine activities and all three concepts of target congruence to explain sexual victimization of college students. Studies have tested multiple components of target congruence while controlling for lifestyle-routine activities variables, but they have focused on populations other than college students, such as youth (Finkelhor & Asdigian, 1996), middle-school and high-school students (Tillyer et al., 2011; Augustine et al., 2002), and prisoners (Wooldredge & Steiner, 2013a; 2013b). These studies suggest that there is a relationship between victimization, lifestyle-routine activities, and target congruence. Based on the well-established research regarding lifestyle-routine activities framework and the emerging research on possible relationships between target congruence and sexual victimization, several research questions and hypotheses have been established.

RQ1: What is the nature of the relationship between target congruence measures and sexual victimization, net of lifestyle-routine activities variables?

Hyp1: A significant relationship between all of the measures for target congruence and risk of sexual victimization, net of lifestyle-routine activities variables, is expected. The nature of the relationship will be dependent upon the measure of target congruence.

RQ2: What is the nature of the relationship between target vulnerability and sexual victimization, net of lifestyle-routine activities variables?

Hyp2A: A positive significant relationship is expected between indicators of psychological distress—GPA and eating disorders—and sexual victimization.

Hyp2B: A positive significant relationship is expected between physical stature (BMI) and sexual victimization. Being underweight, overweight, or obese will increase risk compared to those who report being a healthy weight.

Hyp2C: A negative significant relationship is expected between age and year in school and sexual victimization. As age and year in school increases, risk of sexual victimization is expected to decrease.

Hyp2D: A positive significant relationship is expected between physical limitations and sexual victimization.

RQ3: What is the nature of the relationship between target antagonism and sexual victimization, net of lifestyle-routine activities variables?

Hyp3A: A positive significant relationship between international student status and sexual victimization is expected.

Hyp3B: A negative significant relationship between race and sexual victimization is expected.

Hyp3C: Respondents who report being non-heterosexual will be at significantly greater risk of sexual victimization than heterosexual respondents. Furthermore, bisexual and respondents unsure of their sexual orientation will be at a greater risk of sexual victimization compared to either lesbian/gay or heterosexual respondents.

RQ4: What role does target gratifiability, specifically sex, play in predicting risk of sexual victimization, net of lifestyle-routine activities variables?

Hyp4: It is expected that females will be at significantly greater risk of sexual victimization compared to males

RQ5: Do target congruence measures affect risk of sexual victimization regardless of sex?

Hyp5: It is expected that regardless of sex, target congruence measures will remain significant.

There are several contributions this study makes to the field of victimology. First, this study adds to the current research concerning target vulnerability. As discussed throughout this chapter, only one study has addressed target vulnerability while controlling for lifestyle-routine activities variables among college students (Scherer, 2011). This study fills the gaps in the research by using several measures of psychological distress, moving beyond self-reported mental-health diagnoses. As stated previously, oftentimes mental health disorders go undiagnosed; thus, understanding how indicators of psychological distress may be risk factors is important because they can help inform and shape policy in a meaningful manner. For example, if low GPA is a risk factor for sexual victimization, as hypothesized, then universities can take a

more active role when they notice a student's GPA dropping (see Chapter 6 for more on policy implications). Likewise, these separate measures can help policy makers address sexual victimization on multiple levels, targeting at-risk students via peers, professors, administrators, and the university community.

Second, physical stature as a measure for target vulnerability is also examined. Given the lack of research in this area, it is important to understand how physical stature can contribute to victimization. Specifically, understating whether being physically small or large—according to BMI—has an impact on risk of sexual victimization. Again, it is important to understand how and if BMI effects risk of sexual victimization because of its possible policy implications.

Third, this study also fills the gaps in the literature concerning risk of sexual victimization vis-à-vis sexual orientation. As Chakraborti and Garland (2012) warned, failing to recognize the nuances in sub-populations may lead to a misunderstanding in vulnerabilities, which might lead to inappropriate policies and procedures. If bisexual and respondents unsure of their sexuality really are at a greater risk of sexual victimization even when controlling for lifestyle-routine activities variables, this may necessitate creating policies that effectively address bisexual and students unsure of their sexual orientation, above and beyond policies that may address gay/lesbian populations concerning risk of sexual victimization.

Fourth, there is no published research on immigrant status and sexual victimization among college students. If international students really are at an increased risk of sexual victimization compared to non-international students, then effective policies that can help prevent sexual victimization that are geared towards these students would be beneficial. This may mean targeting students from a culturally sensitive prospective and providing the appropriate services and resources to these students. In sum, filling the gaps in the prior literature

is important because of the implications it can have on creating effective policies to prevent and appropriately handle sexual victimization among college students. As Chapter 1 highlights sexual victimization of college students is a reoccurring issue that is not going away and it is only through understanding the risk factors that lead to sexual victimization that effective policy can be created.

CHAPTER 4

RESEARCH METHODS

This section will describe the secondary data and the methods used to test the concepts of target congruence while controlling for lifestyle-routine activities variables to understand their effects, if any on sexual victimization among a sample of college students. First, the survey instrument will be presented then characteristics of the sample are provided. Next, descriptions of how the independent and dependent variables are operationalized will be discussed. Last, the proposed statistical techniques will be presented.

DATA AND SAMPLE

National College Health Assessment- II (NCHA-II)

The National College Health Assessment-II (NCHA-II) is a national survey of college students conducted bi-annually by the American College Health Association (ACHA). The survey is administered during the fall and spring semesters. Depending on the school paper-based or online surveys were utilized. The National College Health Assessment was first administered in spring of 2000. The Spring 2000 survey included 28 institutions with a sample of roughly 16,000 college students (ACHA, 2011). In 2008, the survey underwent a redesign process to include more in-depth questions on different types of health-related behaviors. The revised survey was then titled NCHA-II and included updated measures for illegal drug use, use of contraception and sexual behaviors, as well as information on vaccinations. Furthermore, questions concerning sleep behaviors, mental health issues, and self-injury were added (ACHA, 2011). The data used in the current study are from the Spring 2011 wave. This wave was collected using the re-designed survey; also, to date it is the largest sample collected by the ACHA with over 75,000 undergraduate students included (ACHA, 2011). The NCHA-II

contains 65 multi-part questions regarding information about personal health and hygiene, as well as information about perceptions of other students' behaviors, victimization, and mental health concerns. Questions are typically asked regarding behaviors over the last 12 months, though the timeframe can vary based on the question. A copy of this survey can be found in Appendix A.

The Spring 2011 wave of the NCHA-II included 148 post-secondary institutions. These schools self-selected into the survey, by requesting use of the survey and submitting payment to the ACHA (ACHA, Demographics of Participating Institutions, 2011) and only the schools that used a random sampling technique or surveyed all students were included in the data analysis: only 129 institutions met this criteria. Schools in this wave included 84 public schools and 45 private schools (ACHA, 2011). These universities are located across the US, with all 50 states and the District of Columbia represented. Enrollments at these universities ranged from less than 2,500 students to more than 20,000 students. Institutional characteristics are highlighted in Table 4.1 below. Diverse campus settings and characteristics are represented across the 129 universities. For example, both public (65%) and private universities (35%) were surveyed, across the Northeast (25.5%), Midwest (19.3%), South (30.2%), and West (27.1%).

As discussed above, the survey was administered in two different formats; 1) paper-based and 2) web-based surveys. The web-based format had a mean response rate of 21%, while the paper-based format had a mean response rate of 81%. The mean response rate for the two formats was roughly 28%. A potential limitation to this study is the low response rate for the web-based administration of the survey. Like this study, other studies have consistently showed lower response rates for web-based surveys (Fricker & Scholnau, 2002). To account for the

variation across administration method a control variable measuring mode of administration was added to the analysis (0=paper based survey, 1=web-based survey). The addition of the control

Table 4.1: Institutional Characteristics (n=129)

	n	%
<u>Type of Institution</u>		
Public	84	65
Private	45	35
<u>Student Enrollment</u>		
<2,500	22	17
2,500-4,999	18	13.9
5,000-9,999	28	21.7
10,000-19,999	29	22.4
20,000+	32	24.8
<u>Campus Setting: Total Community Pop.</u>		
Rural Community (>2,500)	3	2.3
Small Town (2,500-9,999)	16	12.4
Large Town (10,000-49,999)	34	26.3
Small City (50,000-249,999)	49	37.9
Large City (250,000-499,999)	9	6.9
Very Large City (<500,000)	18	13.9
<u>Campus Location</u>		
Northeast	33	25.5
Midwest	25	19.3
South	36	30.2
West	35	27.1

variable can help examine differences between the two groups and see if there was a significant difference in victimization reported based on mode of survey administration. One other control variable was added to account for type of institution (0=public, 1=private). Recent research

(Cantor, Fisher, Chibnall, Townsend, Lee, Bruce, & Thomas, 2015) indicates that there may be a slight, but significant difference in risk of sexual victimization based on institution type.⁴

Chapter 6 provides a greater discussion of the limitations and results concerning issues of external validity including mode of administration. Data from the NCHA-II is not publically available and a request for the use of the data had to be submitted and then approved by the ACHA program office. A proposal was submitted to the ACHA describing interest in the data, which variables would be used, and an outline of the potential analysis. It should also be noted that the ACHA does not release the full dataset, nor can anyone be approved for access to the full dataset; thus, all questions had to be hand selected and the reasoning for the inclusion of each question as they applied to the analyses had to be provided. Request for the information was submitted in spring of 2014 and approval and release of the data set was completed by Mary Hoban, the director of the ACHA-NCHA program in late fall of 2014.

Sample Characteristics

The total sample size for the Spring 2011 administration of the NCHA-II was 84,760 undergraduate students across 129 institutions. To examine a more traditional college population the sample was limited to students aged 18 to 24 who were enrolled as undergraduate students (e.g. freshman, sophomores, juniors, and seniors). The National Center for Education Statistics (NCES, 2014), the primary federal entity responsible for collecting and analyzing data on education in the US and located within the US Department of Education (DOE), reports that 88% of students enrolled in a public college by fall of 2011 were under the age of 25 and 86% of those enrolled in private college were under the age of 25 (NCES, 2014). By limiting the age

⁴ Supplemental analyses for each of the school-level characteristics were conducted by the researcher, each measure was added individually as well as another, final analysis for each of the sample types and across all three dependent variables; none of the measures were significant across any of the models. Analysis provided by the author upon request.

Table 4.2: Sample Characteristics (n= 75,027)

	n	%
Gender		
Male	25,199	33.6
Female	49,828	66.4
Race		
White	56,822	75.7
Non-White	18,205	24.3
Enrollment Status		
Full time	72,155	96.2
Part time	2,225	3.8
Class Status (undergraduate)		
First Year	20,479	27.3
Second year	19,051	25.4
Third Year	17,682	23.6
Fourth Year	14,681	19.6
Five+	3,134	4.2
Transfer in Past 12 month		
No	61,644	82.7
Yes	12,854	17.3
Sexual Orientation		
Heterosexual	68,544	91.4
Gay/Lesbian	1,931	2.6
Bisexual	2,652	3.5
Unsure	1,408	1.9
International Student		
No	69,153	92.8
Yes	5,328	7.2
Mean Age (S.D.)	20.15 (1.48)	

range, this reduced the overall sample of undergraduate student to 75,328. Last, because of the small number of individuals who reported being transsexual (n=121) they were also excluded from the analysis, making the final total of students included in the analysis 75,027. Table 4.2 summarizes the sample characteristics. For more information on the sample characteristics, prevalence estimates for all of the variables and sample types are provided in Appendices J-R.

DEPENDENT VARIABLES

This study examined three dependent variables: *sexual assault victimization*, *rape*, and *sexual touch without consent*. Table 4.3 presents the descriptive statistics for each of the three dependent variables. The operationalizations and survey questions asked are presented below. For more on the survey, measurement, and questions asked: Appendix A provides the original survey and Appendix B provides a summary of the specific questions asked and measures used.

Sexual assault victimization is comprised of three separate questions (Q.5 D,E,F). Students were asked if any of the following had occurred in the last 12 months: 1) “Were you sexually touched without your consent”; 2) “Was sexual penetration attempted (vaginal, anal oral) without your consent”; 3) “Were you sexually penetrated (vaginal, anal, oral) without your consent” (Q.5 D,E,F). The *sexual assault victimization* variable was dichotomized and coded as 0=no, 1=yes. This variable captures overall sexual assault across different types of victimization. Likewise, the construction of a variable that reflects total sexual assault instead of just separate measures for rape or unwanted touching helps remain consistent with other studies on sexual assault victimization (Fisher et al., 1999; Scherer, 2011; Snyder, 2011; Krebs et al., 2007; Cass, 2007). However, because creating a composite measure could mask the effect that each separate type of victimization—attempted and completed rape, as well as sexual touch without consent—can have on understanding the effects of the independent variable to explain victimization,

separate measures for rape and sexual touch without consent will also be examined. Roughly 7% of the sample reported being a sexual assault victim within the last 12 months. When looking at the subsample of female-only and male-only roughly 9.5% and 4% reported being the victims of sexual assault, respectively. Table 4.3 provides the descriptive statistics for the total sample and the female and male subsamples.

Rape victimization is a measure of attempted and completed rape (Cronbach's $\alpha=.78$). The measure was constructed from the questions: "Within the last 12 months was sexual penetration attempted (vaginal, anal oral) without your consent," and, "Were you sexually penetrated (vaginal, anal, oral) without your consent" (Q.5 E, F). Again, in remaining consistent with past research rape was combined into a measure of completed and attempted rape (Fisher et al., 1999, Scherer, 2011; Snyder, 2011). As with the sexual assault victimization measure each of the original survey items were coded as dichotomous: if a respondent reported having experienced an attempted or completed rape they were coded as a rape victim, 0=nonvictim, 1=victim. Roughly 3% of the total sample reported being the victim of rape within the last 12 months. When looking at the subsample of female-only and male-only roughly 4% and 1% reported being the victim of rape, respectively. *Sexual touch without consent* is a dichotomous measure that asks: "Within the last 12 months were you sexually touched without your consent" (Q.5 C). Respondents were coded as 0=nonvictim, 1=victim. Roughly 7% of the total sample reported being the victim of sexual touch without consent. When examining the subsamples of female-only and male-only, roughly 8.5% and 3.5% reported being the victim of sexual touch without consent, respectively. Table 4.3 provides the descriptive statistics of these measures.

INDEPENDENT VARIABLES

Lifestyle- Routine Activities Measures

Each concept of the lifestyle-routine activities framework is discussed at length below. Measures for proximity to motivated offenders, exposure to motivated offenders, target attractiveness, and lack of capable guardianship are all provided and operationalized. Table 4.3 provides the descriptive statistics for each of these concepts. For more information on the original survey questions that help operationalize these concepts see Appendix A. For an overview of the operationalizations and measurement see Appendix B.

Proximity to Motivated Offenders

As with past research, proximity was operationalized as living on-campus or living off-campus, 0=living on campus, 1=living off-campus. This measure is consistent with past research on victimization of college students (Clodfelter et al., 2010; Fisher et al., 1999; Franklin et al., 2012; Hines et al., 2012; Snyder, 2011; Tewksbury & Mustaine, 2003). As with past research and consistent with theory, it is assumed that students who live on-campus are in closer proximity to motivated offenders, eg. other students and are at increased risk of sexual victimization.

Exposure to Motivated Offenders

Measurements for exposure to motivated offenders were broken down by: alcohol consumption, risk-taking behaviors, college- and school-related activities, and general vocational activities. Several measures were used to gauge students' alcohol consumption, risk-taking behaviors, college- and school-related activities, and general vocational activities. Exposure to motivated offenders is defined as one's accessibility or visibility to crime. Each of the following

measures are indicative of exposure to motivated offenders because they each assume these risky routine activities and lifestyles place individuals in certain risky or vulnerable situations, exposing them to motivated offenders (for more see Chapter 2).

First, two variables were used to measure students' alcohol consumption. First, *alcohol use* is a dichotomous variable (Q.10) that measures whether students consumed alcohol last time they "partied or socialized," 0=no, 1=yes. A majority of students (71% of the total sample) reported drinking one or more beverages last time they party or socialized; 71% of females and 70% of males reported drinking in the subsamples. The second variable measuring alcohol consumption is *binge drinking*. Binge drinking is also a dichotomous variable where students reported if students had 5 or more drinks during one sitting over the last two weeks, 0=no, 1=yes (Q.13). Consistent with past research, drinking and binge drinking are examined separately to see if there are differing effects on victimization concerning amount of alcohol consumed (Combs-Lane & Smith, 2002; Howard et al., 2008; Moulso et al., 2012; McCauley et al., 2010; Gardella et al., 2015; Scherer, 2011; Mohler-Kuo et al., 2004; Messman-Moore et al., 2008, 2013).

Three separate measures were used to examine students' risk-taking behaviors: 1) marijuana use; 2) serious drug use and; 3) number of sexual partners. *Marijuana use* is a dichotomous variable that indicates whether the respondents used marijuana in the last 30 days prior to the survey, 0=no, 1=yes (Q.9). *Serious drug use* is the second measure; it is a composite measure comprised of 10 types of illegal drugs: cocaine, methamphetamine, other amphetamine, sedatives, hallucinogen, opiates, inhalants, MDMA (ecstasy), other club drugs, and other illegal drugs (Q.8 A, B). Students reported the number of days in the last 30 days they used a particular drug; this was re-coded into an ordinal scale where number of days-used in the last month corresponded to higher numbers on the scale; 0=never/have not used, 1=1-2 days, 2=3-5 days,

3=6-9 days, 4=10-19 days, 5=20-29 days, 6=used daily. Next, these values were summed and averaged using a threshold of five. Thus, students who reported higher rates of drug use among more types of drugs would score higher on this measure. A threshold is the number of valid values that must be present to be included in construction of a multi-item measure. The threshold was created to account for listwise deletion, which would not have included any cases that did not supply an answer for any of the ten items. For example, in the construction of this measure students were asked about 10 different types of drug use, students must have a valid value on five or more items, so that only students who answered at least half of the questions would be included in this measure. The total amount of cases lost by creating this measure is indicated on Table 4.3 as well as the threshold, which is shown as the number of valid items that must be present over the total amount of items in the measure. These items formed an internally consistent index (Cronbach's $\alpha=.77$). It is important to note that serious drug use was originally skewed right, thus the square root of the results was taken in order to adjust the right skew. Table 4.3 has the corrected data reported. Originally, the values ranged from 0-6, but upon taking the square root the maximum value only goes to 2.44. Prior to taking the square root the mean was 0.02 and the standard deviation was 0.16 for the total sample.

The last measure for risk-taking behaviors is *number of sexual partners*. Respondents were asked, "Within the last 12 months how many partners have you had oral sex, vaginal intercourse, or anal intercourse" (Q.19). This measure is a continuous measure that varies between 0 and 98. This measure is consistent with what past research has used (Abbey et al., 1996; Benson et al., 2007; Franklin, 2010a, 2010b, 2011; Krebs et al., 2009; Messman-Moore et al., 2013; Scherer, 2011; Turchik & Hassija, 2014; Walker et al., 2011). Like the measure of *serious drug use*, *number of sexual partners* was originally skewed right. Thus, the square root of

the results was taken in order to adjust for skew. Originally the range was 0-98, with a mean of 1.48 and a standard deviation of 2.72, the adjusted results are recorded in Table 4.3.

Two measures for college- and school-related activities are used, *fraternity/sorority membership* and *athletic participation*. For *fraternity/sorority membership* respondents were asked, “Are you a member of a social fraternity or sorority (e.g., National Interfraternity Conference, National Panhellenic Conference, National Pan-Hellenic Council, National Association of Latino Fraternal Organizations)” (Q. 59), and responses were coded as, 0=no, 1=yes. *Athletic participation* is based on individuals who responded that they had participated in varsity, club sports, or intramurals at their college during the last 12 months, 0=no, 1=yes (Q. 64).

Last, two measures for general vocational activities are used. First, *volunteering* is a dichotomous measure. Respondents were asked: “How many hours a week do you volunteer” (Q.61). Responses are coded 0=no hours, 1=one or more hour(s). The second measure for general vocational activities is *employment*. Respondents were asked “How many hours a week do you work for pay” (Q.60). Responses are coded 0=no hours, 1=one or more hour(s). According to lifestyle-routine activities theory (Cohen et al., 1981) those who are more accessible or visible have increased exposure to motivated offenders, and thus are at greater risk of victimization. It is assumed, based on theory, that those who volunteer and work are outside of the house more and thus have greater exposure to motivated offenders leading to greater rates of victimization. These measures were truncated from ordinal measures to dichotomous measures for several reasons. First, analyzing the frequencies of the original categorizations (0 hours, 1-9 hours, 10-19 hours, 20-29 hours, 30-39 hours, 40 hours, more than 40 hours) showed that the largest majority of students fell into one of two categories, either zero hours or 1-9 hours. Most

students reported working and volunteering zero hours, 46.5% and 61.3% respectively; or 1-9 hours, 19.7% and 33.74% respectively. Second, bivariate analyses did not show a change in ability to predict risk of sexual victimization when using either the ordinal measure or the dichotomous measure. Last, the previous studies examining these two measures from a different wave of ACHA used the same operationalization and coding (Scherer, 2011; Snyder, 2011).

Target Attractiveness

Cohen et al. (1981) identified two characteristics that make a target attractive: material and/or symbolic desirability and how easily the target can be accessed or obtained. According to Cohen and associates (1981), the more desirable a target is, the more likely they are to be victimized. To remain consistent with past research target attractiveness is based on relationship status (Banyard et al., 2007; Cass, 2007; Combs-Land & Smith, 2002; Fisher et al., 1999; Franklin, 2010a; Franklin, 2011; Scherer, 2011). Respondents were asked “What is your relationship status” (Q. 56), and responses were coded as 0=not in a relationship, 1=in a relationship. It is assumed that individuals in relationships are less desirable and attractive to motivated offenders.

A second measure of target attractiveness was also added. However, this measure has not been discussed thus far. *Risk-avoidance behaviors* have been added to this study. *Risk-avoidance behaviors* are behaviors that individuals enact or do while they are partying or socializing. These particular behaviors are predicted to reduce potential targets or victims’ risk of victimization because they are assumed to be less attractive targets based on their behavior. For example, an individual who avoids drinking games, may be less likely to binge drink, and therefore is a less attractive target to motivated offenders. To measure *risk-avoidance behaviors* a composite variable comprised of seven different behaviors was created. Students were asked how often they

were likely to engage in a particular behavior while “partying/socializing.” The seven behaviors include: 1) “Alternate non-alcoholic with alcohol beverages”; 2) “Avoid drinking games”; 3) “Determine, in advance, not to exceed a certain number of drinks”; 4) “Eat before and/or during drinking”; 5) “Keep track of how many drinks you are having” 6) “Pace your drinks to 1 or fewer per hour”; and 7) “Stick with one type of alcohol when drinking” (Q.15). Students were able to respond to each of the seven questions as: 5=do not drink, 4=always (engage in the risk avoidance behavior); 3= mostly (engage in the risk avoidance behavior), 2= sometimes (engage in the risk avoidance behavior), 1=rarely (engage in the risk avoidance behavior), 0=never (engage in the risk avoidance behavior). Students who do not drink are considered to have the least amount of risk so they are coded the highest followed by those who always practice risk-avoidance behaviors. An additive scale was created by averaging the sum of the values for each answer of the seven types of behaviors. The items formed an internally consistent index of risk avoidances (Cronbach’s alpha= .94). A threshold of four was used in order to account for listwise deletion. In other words, respondents had to answer at least four of the seven questions to be included in the measure. If a threshold had not been used cases that did not supply an answer for any of the seven items would have been excluded from the analysis. The number missing of cases are reported in Table 4.3. A threshold of four was selected for several reasons. First, the measure will only include people who answered over half the questions, ensuring a more reliable estimate of risk-avoidance. Second, there does not appear to be a notable difference between the number of missing cases that are added when the threshold is higher or lower. Appendix C provides varying statistics (eg., principle component analysis and number of missing cases) to help understand the use of a composite measure over a factor, as well as the use of a four item threshold. It is assumed that students who do not practice risk-avoidance behaviors

while drinking will have greater rates of sexual victimization, thus there will be a negative relationship between risk-avoidance behaviors and sexual victimization.

Guardianship

Capable guardianship is defined as the ability of a person or object to prevent a crime from occurring (Madero-Hernandez & Fisher, 2013). Here, guardianship is comprised of two different variables. The first measure is referred to as the *friendship/partying measure*. It is a composite of three risk-avoidance factors concerning guardianship. Students were asked how often they were likely to engage in a particular behavior while “partying/socializing”: 1) “Stay with same group of friends while drinking”; 2) “Use a Designated Driver”; 3) “Have a friend let you know when you’ve had enough” (Q.15). Responses were coded: 5=do not drink, 4=always (engage in the guardianship behavior), 3= mostly (engage in the guardianship behavior), 2=sometimes (engage in the guardianship behavior), 1=rarely (engage in the guardianship behavior), 0=never (engage in the guardianship behavior). An additive scale was created using the sum of the values for each answer for the three types of behaviors and then averaged. The items formed an internally consistent index of friendship/partying measures (Cronhbach’s $\alpha=.76$). A threshold of two was used so that at least two items had to be answered for those answers to be kept in the analysis; Table 4.3 outlines the missing cases. Students who make sure they have others watching them may be able to prevent a crime from occurring and thus have a decreased risk of victimization. Appendix D provides varying statistics (eg., principle component analysis and number of missing cases) to help understand the use of a composite measure over a factor, as well as the use of a two item threshold.

The second measure of guardianship was whether the respondent had received *crime prevention information* from their university concerning: 1) injury prevention; 2) violence

prevention; and 3) sexual assault/relationship violence prevention (Q.2, Q.3). This is dichotomous measure, 0=did not receive information, 1= did receive at least one-piece crime prevention information. A majority of students (73%) reported receiving crime prevention information from their university. This measure may not be the best or most appropriate operationalization of guardianship given that it is not consistent with past research—other than Scherer (2011) and Snyder (2011)—(see table 2.2) and fails to include a human element of guardianship, the implications of which will be discussed further in Chapters 5 and 6 (see Hollis, Felson, & Welsh, 2013).

Target Congruence Measures

Each concept of target congruence is discussed in length below. Measures for target vulnerability, target gratifiability, and target antagonism are all provided and operationalized. Table 4.3 provides the descriptive statistics for each of these concepts. For more information on the original survey questions that help operationalize these concepts see Appendix A. For an overview of the operationalizations and measurement see Appendix B.

Target Vulnerability

The first concept of target vulnerability was constructed using similar measures to Finkelhor and Asdigian's (1996) original work; measures of physical stature, psychological distress, physical limitations, and age were created. Likewise, eating disorders and GPA, which might also be indicators of target vulnerability, were constructed. Finkelhor and Asdigian (1996) define target vulnerability as the characteristics of a victim, which may make them less able to resist or deter victimization. Again people who are under or overweight, exhibiting psychological distress—or proxy measures of psychological distress such as low GPA and eating disorders—as well physical limitations and younger age, may not be able to easily resist or deter victimization.

For more on how each of measure may reduce a person's ability to resist or deter victimization see Chapter 3.

The measure of *physical stature* was derived from the height and weight of each respondent. Using height and weight a body mass index (BMI) was calculated. Estimated BMI is based on self-reported height (Q. 49 A, B), weight (Q.50); it is a continuous variable. The calculation for computing BMI is $\text{weight (kg)} / [\text{height (m)}]^2$. Using the output, BMI was recoded into six different categories based on the World Health Organizations recommended categorizations (World Health Organization [WHO], 2004): 1) BMI < 18.5 underweight; 2) BMI 18.5-24.9 healthy weight; 3) BMI 25-29.9 overweight; 4) BMI 30-34.5 class I obesity; 5) BMI 35-39.9 class II obesity; and 6) BMI ≥ 40 class III obesity. Using these categorizations dummy variables were created to measure BMI: healthy weight (reference group), underweight, overweight, and obese composed of class I obesity, class II obesity, and class III obesity. The categories of obese were collapsed given the low base-rates for some of these categories. Table 4.4 reports the descriptive statistics for *physical stature*. As Chapter 3 discusses (see Table 3.1 and corresponding studies) different operationalizations have been used to measure physical stature. Similarly, Smith et al. (2010) used BMI to measure risk of sexual victimization during childhood, while other studies have relied on proxy measures such as height and age (Augustine et al., 2002) or national average comparisons (Finkelhor & Asdigian, 1996). Roughly 65% of the total sample reported having a healthy weight (reference category), while roughly 20% reported being overweight.

Psychological distress is a composite measure of seven different questions concerning mental health all of which are indicators of underlying mental health issues. Respondents were asked if in the last two weeks to 12 months if they had ever: 1) 'Felt things were hopeless'; 2)

“Felt overwhelmed by all they had to do”; 3) “Felt very lonely”; 4) “Felt very sad”; 5) “Felt so depressed it was difficult to function”; 6) “Felt overwhelming anxiety”; 7) “Felt overwhelming anger” (Q. 30). Respondents were then coded as 0=no, yes=1; the results were summed creating a scale from 0 to 7 and then averaged. These items form an internally consistent index of psychological distress (Cronbach’s alpha=0.85). Respondents who rank higher have experienced more psychological distress within the last year. A threshold of four was created so that respondents who gave valid responses to over half of the questions were kept in the analysis. Appendix E provides varying statistics (eg., principle component analysis and number of missing cases) to help understand the use of a composite measure over a factor, as well as the use of a four item threshold. A sum was used in order to remain as close to the original indicator used by Finkelhor and Asdigian (1996); however, a mean was taken in order to account for those who may not have had valid answers for all of the questions (see Appendix E). Likewise, using indicators of distress rather than diagnoses helps this study remain consistent with past research (Finkelhor & Asdigian, 1996; Gidycz et al., 1995; Huerta et al., 2006; Kuara & Lohman, 2007; Messman-Moore et al., 2008; Rich et al., 2005). Last, many mental health problems may be undiagnosed, thus this variable taps into psychological distress, which may be short-term patterns of distress or undiagnosed long-term issues.

Two other measures are used to examine potential underlying psychological distress: *eating disorders* and *GPA*. Like psychological distress the measure for *eating disorders* is not based on self-reported diagnoses, but recent behaviors that are indicative of disordered eating. Respondents were asked, “Within the last 30 days, did you vomit or use laxative to lose weight” (Q.38). Responses were coded as 0=no, 1=yes. This measure is consistent with past research in capturing eating disorder issues without being medically diagnosed (Silverman et al., 2001;

Huerta et al., 2006; Gidycz et al., 2008). *GPA* is a dummy variable, responses are based on students self-reported grade point average; A (reference group), B, C, D/F, and N/A. 'A' was chosen as the reference group because based on theory, those with who have higher reported GPAs should experience less sexual victimization. Thus, as GPA goes down victimization risk should go up, this would be reflected best by using 'A' as the reference. Table 4.4 reports the descriptive statistics for GPA. Roughly 50% of the total sample reported having a 'B' GPA, with an 'A' GPA being the second largest percentage of the total sample. See also Appendices J-R for more descriptive statistics based on sex and type of victimization.

Physical limitations refers to an individual's inability to defend themselves from a sexual victimization because of an impairment or limitation. *Physical limitations* is a composite measure comprised of individuals who responded that they had one or more of the following physical disorders: 1) deaf/hard of hearing; 2) mobility/ dexterity disability; 3) partially sighted/blind; or 4) speech language disorder. Respondents were then coded as 0=no disability, 1=having at least one disability. Responses were summed and then a new measure was created, 0=no disability, 1=1 or more disability. Roughly 3% of the total sample and female-only sample reported having one or more physical disability, while 4% of the male-only sample reported having

The last two measures of target vulnerability are *age* and *year in school*. Age is a continuous variable where ages ranged from 18 to 24. The mean age is 20 years old. *Year in school* is a dummy measure. Respondents were asked, "What is your year in school" (Q. 51)? Responses were coded as freshman year (reference), sophomore year, junior year, senior year, and 4+ years in school. Freshman year students were selected as the reference category based on the theory target congruence. As discussed in Chapters 2 and 3 freshman are a particularly

Table 4.3: Dependent and Independent Variable Descriptive Statistics

Variables	Scale	Range	Total Sample		Female-only		Male-Only		Threshold (Total Missing %)
			Mean	S.D.	Mean	S.D.	Mean	S.D.	
<u>Dependent Variables</u>									
Sexual Assault	0=No, 1=Yes	0-1	0.07	0.26	0.09	0.29	0.03	0.19	
Rape	0=No, 1=Yes	0-1	0.03	0.17	0.03	0.19	0.01	0.10	
Sexual Touch Without Consent	0=No, 1=Yes	0-1	0.07	0.25	0.08	0.27	0.03	0.18	
<u>Independent Variables</u>									
<u>Lifestyle-Routine Activities Variables</u>									
Proximity to Motivated Offenders									
Housing	0=Off-Campus, 1=On-Campus	0-1	0.54	0.49	0.55	0.49	0.53	0.49	
Exposure to Motivated Offenders									
<u>Alcohol Consumption</u>									
Binge Drinking	0=No, 1=Yes	0-1	0.37	0.48	0.32	0.46	0.45	0.49	
Alcohol Use	0=No, 1=Yes	0-1	0.71	0.45	0.71	0.45	0.70	0.45	
<u>Risk-Taking Behaviors</u>									
Marijuana Use	0=No, 1=Yes	0-1	0.18	0.38	0.16	0.36	0.21	0.41	
Serious Drug Use (Cronbach's Alpha=.77)	Continuous	0-2.44	0.03	0.15	0.03	0.13	0.04	0.17	5/10 (1.3)
Number of Sexual Partners	Discrete	0-9.89	0.91	0.81	0.89	0.74	0.96	0.90	

Table 4.3: Continued

Variables	Scale	Range	Total Sample		Female-only		Male-Only		Threshold (Total Missing %)
			Mean	S.D.	Mean	S.D.	Mean	S.D.	
<i>College- and School-related Activities</i>									
Athletic Participation	0=No, 1=Yes	0-1	0.34	0.47	0.28	0.45	0.46	0.49	
Fraternity/Sorority Member	0=No, 1=Yes	0-1	0.11	0.31	0.11	0.32	0.11	0.31	
<i>General Vocational Activities</i>									
Volunteer	0=No, 1=Yes	0-1	0.38	0.48	0.41	0.49	0.33	0.47	
Employed	0=No, 1=Yes	0-1	0.53	0.49	0.55	0.49	0.48	0.49	
Target Attractiveness									
Relationship Status	0=Single, 1=In a Relationship	0-1	0.46	0.49	0.49	0.50	0.42	0.49	
<i>Risk-Avoidance Behaviors</i> (Cronbach's Alpha=.94)	Continuous	0-5	2.90	1.38	2.97	1.32	2.75	1.48	4/7 (.5)
Guardianship									
Friendship/Partying Measure (Cronbach's Alpha=.76)	Continuous	0-5	3.40	1.16	3.50	1.08	3.21	1.30	2/3 (1.3)
Received Crime Prevention Information	0=No, 1=Yes	0-1	0.73	0.43	0.74	0.43	0.73	0.44	

Table 4.3: Continued

Variables	Scale	Range	Total Sample		Female-only		Male-only		Threshold (Total Missing %)
			Mean	S.D.	Mean	S.D.	Mean	S.D.	
<u>Target Congruence Variables</u>									
Target Vulnerability									
Physical Stature	Dummy								4/7 (.3)
Psychological Distress (Cronbach's Alpha=.83)	Continuous	0-1	0.54	0.33	0.58	0.32	0.47	0.34	
Eating Disorder GPA	0=No, 1=Yes Dummy	0-1	0.01	0.16	0.02	0.18	0.01	0.11	
Physical Limitations	0=No, 1=Yes	0-1	0.03	0.19	0.03	0.18	0.04	0.20	
Age	Continuous	18-24	20.15	1.48	20.07	1.44	20.30	1.55	
Year in School	Dummy								
Target Gratifiability									
Sex	0=Female, 1=Male	0-1	0.34	0.47	-	-	-	-	
Target Antagonism									
Sexual Orientation	Dummy								
Race	0=Nonwhite, 1=White	0-1	0.75	0.42	0.75	0.43	0.76	0.42	
International Student Status	0=No, 1=Yes	0-1	0.07	0.25	0.07	0.25	0.07	0.26	

vulnerable population as they may be new to college, younger, and unaware of their surroundings. It is expected that first year students will have the greatest risk of sexual victimization and then moving farther away from freshman year, risk will go down. Table 4.4 reports the descriptive statistics for *year in school*. Roughly 27% of the sample reported being a freshman (reference category). As year in school increases, the percentage of the sample it represents decreases.

Target Gratifiability

Target gratifiability is defined as an individual's characteristics that may increase their risk of victimization because of the "quality, possession, skill or attribute that an offender wants to obtain, use, have access to, or manipulate" (p. 6). Only one measure of target gratifiability was used to represent this concept, *sex*. Sex is a dichotomous measure coded as, 0=female, 1=male (Q. 46). This measure is consistent with Finkelhor and Asdigian's (1996) original proposition for target gratifiability measures. A majority of the students reported being female (66.4%). Furthermore, as past research suggests (Hines et al., 2012; Banyard et al., 2007; Tillyer, Wilcox, & Fialopsos, 2010; Popp & Peguero, 2011; Reyns, Henson, Fisher, Fox, & Nobles, 2016; Wilcox, Tillyer, & Fisher, 2009) sex may not only be operating as a main effect, but also a moderator for both the lifestyle-routine activities variables and the target congruence measures. Given the recent research and gendered approaches to both lifestyle-routine activities theory and target congruence, this study will utilize sex as an independent variable across the total sample, and then as a moderator across the female-only and male-only subsamples (for more on the models being used, see below).

Target Antagonism

Target antagonism is defined as qualities, characteristics, or attributes, which increase or arouse, jealousy, anger, or destructive impulses by offenders. Three measures are used to capture the concept of target antagonism: *sexual orientation*, *race*, and *international student status*. Each of these measures are meant to capture particular groups, which incite anger among racists, homophobic, and xenophobic individuals. To measure *sexual orientation* respondents were asked, “What is your sexual orientation?: Heterosexual, Gay/lesbian, Bisexual, Unsure” (Q. 48). Dummy variables were labeled as heterosexual (reference), gay/lesbian, bisexual, and unsure. Table 4.4 presents the descriptive statistics for *sexual orientation*. Over 90% of the sample reported being heterosexual (reference category), while roughly 3.5% report being bisexual, the second largest percentage of the sample for sexual orientation. *Race* is a dichotomous variable coded as 0=nonwhite, 1=white (Q. 54). This coding was used for race to remain consistent with past research concerning this data (Scherer, 2011; Snyder, 2011). Last, international student status is a dichotomous measure. Respondents were asked, “Are you an international student?” (Q. 55), responses were coded as 0=no, 1=yes. Roughly 7% of the sample is comprised of international students.

STATISTICAL TECHNIQUES

Bivariate Analysis

First, bivariate analyses will be estimated to explore the relationship between target congruence variables and all three dependent variables of sexual victimization. Because the three dependent variables of interest are dichotomous and there are several dummy indicators, the simplest and most appropriate statistical technique for estimating bivariate relationships is bivariate binary logistic regression. Several coefficients will be presented in Chapter 5 to help with the

interpretation of the data. B—the unstandardized regression coefficient—presents the log-odds, $\text{Exp}(B)$ —the odds ratio, standard errors, and confidence intervals (CI) at 95% CI, will

Table 4.4 Dummy Variable Descriptive Statistics

Variable	Total Sample		Female-only		Male-only	
	Frequency	Percent Total	Frequency	Percent Total	Frequency	Percent Total
GPA						
A (Reference)	27,380	36.68	18,910	38.12	8,470	33.82
B	36,913	49.45	24,490	49.36	12,423	49.61
C	8,991	12.04	5,360	10.80	3,631	14.50
D/F	555	0.74	306	0.62	249	0.99
N/A	815	1.09	545	1.10	270	1.08
Sexual Orientation						
Heterosexual (Reference)	68,544	91.96	45,694	92.29	22,850	91.23
Gay/Lesbian	1,931	2.59	698	1.41	1,233	4.93
Bisexual	2,652	3.56	2,123	4.29	529	2.11
Unsure	1,408	1.89	999	2.02	409	1.63
Year in School						
Freshman (Reference)	20,479	27.30	13,572	27.74	6,907	27.41
Sophomore	19,051	25.39	12,728	25.54	6,323	25.09
Junior	17,682	23.57	11,801	23.68	5,881	23.34
Senior	14,681	19.57	9,864	19.80	4,817	19.12
4+ years in school	3,134	4.18	1,863	3.74	1,271	5.04
Physical Stature						
Healthy Weight (Reference)	48,184	65.07	33,028	67.22	15,156	60.58
Underweight	3,769	5.09	2,890	5.88	879	3.53
Overweight	15,091	20.38	8,797	17.90	6,294	25.27
Obese	7,001	9.46	4,421	9.00	2,580	10.36

all be provided, more explanation on each of these measures is presented below. Overall model-fit statistics will also be provided in the appendices. Several different statistics can explain how good the overall model is at predicting the dependent variable. First, $-2 \log$ likelihood and chi-square will be presented. Likewise, a pseudo R^2 will be provided as well an alpha level set at .01 and will be used to determine significance, unless otherwise noted. Again, more information on these statistics is provided in the multivariate section next.

Multivariate Analysis

Because the three dependent variables of interest are dichotomous variables—sexual assault victimization, rape, and sexual touch without consent—the appropriate statistical technique for analyzing the data is binary logistic regression. Binary logistic regression estimates the odds of an event occurring while accounting for the impact of the independent variables on these odds (Menard, 2002). Stata 14 will be used to perform all of the analyses.

Several coefficients will be presented in Chapter 5 to help with the interpretation of the data. B —the unstandardized regression coefficient—presents the log-odds, $\text{Exp}(B)$ —the odds ratio, standard errors, and confidence intervals at 95% CI, will all be provided. Odds ratios are important because they are easily interpreted representations of the logistic regression coefficient (Weisburd & Britt, 2007, p. 569). The odds ratio is the measure of association between risk—in this case, of victimization—and the outcome. In other words, the odds ratio represents the odds of one outcome occurring in the presence of, or exposure to, certain factors compared to the odds of that same outcome occurring when that factor or exposure is not present. For example, suppose the odds ratio predicting risk of sexual victimization for race was 1.21. This would indicate that the odds of victimization are 21% higher for whites relative to non-whites. Or, put differently, whites are 1.21 times more likely than non-whites to be victimized. Conversely, odds ratios of less than one indicate a negative relationship, where the likelihood of the dependent variable occurring decreases as the independent variable increases. Returning to the example of race and sexual victimization assume an odds ratio of .88, this would mean that whites are .88 times less likely to be sexually victimized compared to non-whites.

Overall model-fit statistics will also be provided. Several different statistics can explain how good the overall model is at predicting the dependent variable. First, $-2 \log$ likelihood and

chi-square will be presented. Likewise, a pseudo R^2 will be provided. R^2 is an estimate of the explained variance in the model; that is, the variation in the dependent variable explained by the independent variables. Last, an alpha level is set at .01 and will be used to determine significance, unless otherwise noted.

Because the data are clustered among 129 different universities across the US robust standard errors will be provided, specifically the Huber-White Sandwich. By providing the robust standard errors and accounting for clustering it allows the analysis to relax its independent errors assumption in a limited way, this is important because errors may be correlated within subgroups or clusters of the data (Hamilton, 2009).

Before beginning the analyses potential issues in multicollinearity will need to be addressed. Performing an analysis for tolerance and variance inflation factors will help to determine if multicollinearity will be an issue in the three separate analyses. Multicollinearity is problematic for several reasons. Multicollinearity will increase the standard errors for the coefficients making them large. It also makes the ability to predict the impact of one independent variable on the dependent variable much less precise if it is highly collinear with another independent variable (Menard, 2002). Potential issues in multicollinearity may arise with age and year in school; psychological distress in conjunction with other indicators of psychological distress such as eating disorders and GPA; and international student status and race.

It is important to note here that two separate models will be estimated for each dependent variable, first a partial—or nested—model testing just lifestyle-routine activities and risk of sexual victimization, then a full model testing lifestyle-routine activities, target congruence, and risk of sexual victimization. Once each model has been estimated a Wald test will be conducted to examine whether target congruence variables significantly add to the explanatory power of the

full model versus just the nested model (eg. lifestyle-routine activities model). While a likelihood-ratio test would normally be used to test the difference between a full and a nested model, this is not the appropriate test statistic given that the data is clustered. Thus, only the Wald statistic and the p value set at $p < 0.01$ will be provided to determine if the full model adds to the explanatory power of the partial model (for more on why a clustered data violates the assumptions of the likelihood-ratio test and would not be suitable test for this dissertation see, Sribney, 2013).

Other Measures

After estimating the total sample analyses for each dependent variable an interaction for sex and all of the variables will be added. Given the importance of sex in understanding sexual victimization of college students (see Chapter 2 and Chapter 3) there may be significant differences in risk of sexual victimization based on the sex of the individual. Thus, there is a potential for interaction between sex and all of the independent variables. Because many of the variables used to assess target congruence—GPA, sexual orientation, and BMI—are categorical, creating interactions between sex and all of the non-reference categories would not be helpful in interpreting differences between sex and the non-reference categories since they are being compared only to the reference and not each other. In other words, sex may not only be acting as a main effect it may also be acting as a moderator. Several studies (Tillyer et al, 2010; Popp & Peguero, 2011; Reyns et al., 2016; Wilcox et al., 2009; Hines et al., 2012; Banyar et al., 2007; Bones 2013, Scherer, 2011) have found support for sex as a moderator for lifestyle-routine activities measures as well as target congruence measures (for more discussion on each of the above studies see Chapter 2 and Chapter 3). Thus, three separate analyses will be estimated for each dependent variables: all college students, male college students, and female college

students. A final analysis, an equality of coefficients test, will examine whether there are significant differences between each of the coefficients for males and females among the target congruence measures (Paternoster, Brame, Mazerolle, & Piquero, 1998).

Chapter 5

RESULTS

This chapter discusses the results from the analyses that were conducted in order to examine the relationship between sexual victimization, lifestyle-routine activities, and target congruence. First, bivariate binary logistic regression results for the target congruence independent variables and the sexual victimization dependent variables are presented. Next, the results from the multivariate logistic models as well as the equality of coefficients results are presented and discussed. Chapter 6 will provide a more in-depth examination of the results as well as discussion on the limitations of the current study.

However, as discussed at the end of Chapter 4, before beginning the analyses multicollinearity diagnostics were conducted. Two variables were removed from the overall analyses because they presented extremely high bivariate correlations (i.e., greater than .80); age and year in school were highly correlated, so age was dropped from the analyses, while risk-avoidance behaviors and the friendship/partying measure were also highly correlated, so the friendship/ partying measure was dropped from the analyses.⁵ Further tests for variance inflation factors and tolerance scores did not indicate any other issues with multicollinearity, the results of which can be found in Appendix F.

BIVARIATE RESULTS

While the primary purpose of this dissertation is to understand the impact target congruence variables have on sexual victimization while still accounting for lifestyle-routine activities factors, a basic understanding of how the target congruence variables operate alone

⁵ Year in school was chosen because prevention measures on college campuses might be better able to target at-risk individuals based on year in school rather than age. For example, information about year in school may be more accessible or easily identifiable making prevention efforts simpler. In comparison, risk-avoidance behaviors was kept in the analyses because, as a whole, the measure captures more information, as well as the researcher's future interest in this particular variable.

may be helpful in understanding their importance in contributing to risk of sexual victimization. Tables 5.1 through 5.3 presents the results from the bivariate binary logistic regression analyses for each of the three types of sexual victimization (Appendices G through I show the model fit statistics for these measures). Below, the unstandardized coefficient (b) and the standard error (S.E) for b are reported. Also presented is the odds ratio (Exp. B) and the 95% confidence interval for each. Last, the significance is reported for $p < 0.01$.

Sexual Assault Victimization

Table 5.1 illustrates the bivariate results from the total sample, the female-only, and male-only subsamples and their risk of sexual assault victimization. Furthermore, Appendices J, K, and L provide all of the prevalence estimates for each sample type, providing information for each independent variable examined as well the number of missing cases. All but four of the measures for target congruence were significant in the total sample (RQ1;Hyp1); however, there was some variation between the predicated relationships and estimated relationships (eg., Hyp2B), which is discussed further below. Roughly 7.6% of the total sample (n=5,710) reported being the victim of sexual assault. Beginning with target vulnerability (RQ2)—as anticipated—psychological distress, eating disorders, and GPA all reported positive significant relationships with sexual assault victimization (Hyp2A). For example, those who reported having an eating disorder were 3.41 times more likely to report sexual assault victimization than those who did not, while those who reported higher rates of psychological distress were 6.73 times more likely to experience sexual assault victimization. However, it is very important to note that psychological distress, eating disorders, and GPA all may be consequences of sexual assault victimization. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated measures were consequences of the victimization or if they

were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*). This particular limitation should be addressed in future research, which is discussed further below.

In comparison to the psychological distress variables, the variables for physical stature received mixed results (Hyp2B); the overweight and obese categories were significant in the opposite direction than was originally hypothesized. For example, it was hypothesized that individuals who were overweight would be significantly more likely to be the victim of sexual assault when compared to individuals who reported being a healthy weight; instead they were significantly less likely to be the victim of sexual assault than the reference category of healthy weight. In comparison, being underweight was non-significant. The final measure of target vulnerability—physical limitations (Hyp2D)—was significant in the predicted direction; those who reported having one or more physical limitations were 1.48 times more likely to be the victim of sexual assault than those who did not report having a physical limitation. As Table 5.1 indicates, there is only partial support for the hypothesis that target antagonism contributes to risk of sexual assault victimization (RQ3). It was originally hypothesized that international student status (Hyp3A) and race (Hyp3B) would be significant in the analysis; however, neither were significant in the bivariate results. Comparatively, sexual orientation was significant across all categories. In other words, those who reported being gay/lesbian, bisexual, or unsure of their sexual orientation were significantly more likely to be the victim of sexual assault than heterosexuals. For example, individuals who were bisexual were 2.68 times more likely to be victimized than those who reported being heterosexual. Finally, sex—the measure for target gratifiability—(RQ4; Hyp4) was a significant predictor of sexual assault victimization, with females reporting a 61% increase in risk compared to males.

Table 5.1: Bivariate Binary Logistic Results for Sexual Assault Victimization for the Total Sample and Female and Male Sub-Samples

Variables	<u>Total</u>			<u>Female</u>			<u>Male</u>		
	Coefficient (S.E)	Odds Ratio	Confidence Interval (95%)	Coefficient (S.E)	Odds Ratio	Confidence Interval (95%)	Coefficient (S.E)	Odds Ratio	Confidence Interval (95%)
<u>Target Vulnerability</u>									
Physical Stature									
Healthy weight (ref)									
Underweight	0.027 (.061)	1.027	0.910-1.160	-0.045 (.066)	0.955	0.839-1.088	0.026 (.177)	1.027	0.725-1.454
Overweight	-0.124 (.035)	0.882*	0.822-0.947	-0.078 (.041)	0.924	0.852-1.002	0.085 (.075)	1.089	0.939-1.263
Obese	-0.303 (.053)	0.738*	0.665-0.090	-0.310 (.060)	0.732*	0.651-0.824	0.076 (.113)	0.926	0.741-1.158
Psychological Distress	1.852 (0.047)	6.737*	5.812-6.989	1.905 (.055)	6.725*	6.034-7.496	1.229 (.096)	6.725*	6.034-7.496
Eating Disorder	1.229 (.054)	3.419*	3.074-3.803	0.991 (.057)	2.694*	2.407-3.015	1.893 (.169)	6.639*	4.767-9.247
GPA									
A (ref)									
B	0.128 (.030)	1.136*	1.070-1.207	0.122 (.033)	1.130*	1.057-1.207	0.293 (.076)	1.341*	1.154-1.558
C	0.225 (.044)	1.253*	1.148-1.368	0.293 (.050)	1.341*	1.215-1.480	0.376 (.101)	1.457*	1.195-1.777
D/F	0.675 (.129)	1.965*	1.525-2.532	0.724 (.156)	2.064*	1.518-2.807	1.035 (.236)	2.816*	1.772-4.476
N/A	0.374 (.120)	1.453*	1.147-1.842	0.319 (.137)	1.377	1.051-1.803	0.723 (.258)	2.062*	1.243-3.420
Physical Limitations	0.395 (.063)	1.483*	1.311-1.678	0.332 (.074)	1.393*	1.203-1.613	0.764 (.119)	2.147*	1.700-2.713
Year in School									
Freshman (ref)									
Sophomore	0.017 (.037)	1.010	0.940-1.086	-0.015 (.040)	0.985	0.909-1.067	0.114 (.090)	1.121	0.938-1.340
Junior	-0.101 (.038)	0.903*	0.837-0.975	-0.157 (.042)	0.854*	0.785-0.929	0.133 (.092)	1.142	0.954-1.369
Senior	-0.104 (.040)	0.900	0.831-0.975	-0.184 (.045)	0.831*	0.760-0.909	0.209 (.095)	1.233	1.023-1.486
4+ years	-0.435 (.083)	0.647*	0.549-0.762	-0.435 (.095)	0.647*	0.536-0.780	-0.166 (.175)	0.846	0.600-1.193
<u>Target Gratifiability</u>									
Sex	-0.931 (.035)	0.394*	0.367-0.422	-	-	-	-	-	-
<u>Target Antagonism</u>									
Sexual Orientation									
Heterosexual (ref)									
Gay/Lesbian	0.405 (.076)	1.500*	1.291-1.743	0.232 (.122)	1.261	0.991-1.604	1.131 (.102)	3.100*	2.536-3.790
Bisexual	0.985 (.054)	2.680*	2.410-2.979	0.843 (.058)	2.323*	2.072-2.605	1.216 (.146)	3.376*	2.536-4.495
Unsure	0.818 (.076)	2.267*	1.950-2.636	0.732 (.086)	2.080*	1.756-2.463	1.076 (.174)	2.934*	2.085-4.129
Race	0.046 (.032)	1.047	0.982-1.116	0.129 (.036)	1.138*	1.059-1.223	-0.252 (.072)	0.777*	0.674-0.894
Intl. Student	-0.050 (.054)	0.951	0.854-1.058	-0.044 (.061)	0.956	0.848-1.077	-0.019 (.124)	0.980	0.767-1.252

*p<0.01

Table 5.1 also shows the bivariate results for female risk of sexual assault victimization. Appendix G provides the model fit statistics for all of the variables in Table 5.1, while Appendix K provides the prevalence estimates for the female-only subsample. Of the 44,728 females in the sample, 4,713 (roughly 9.5%) reported being the victim of sexual assault. All except six target congruence measures were significant in predicting risk of sexual assault victimization (RQ1). However, there were several marked differences between the original hypotheses and the results (RQ1). Marked differences were found across the variables of international student status, lesbian sexual orientation, race, and physical stature, discussed below. Beginning with target vulnerability (RQ2), as anticipated psychological distress, eating disorders, and GPA all reported positive significant relationships (Hyp2A) with sexual assault victimization for females. However, females who reported 'N/A' GPA were not significantly more likely to be the victim of sexual assault than those who reported a GPA of 'A'. Females who reported greater rates of psychological distress were 6.72 times more likely to be the victim of sexual assault than those with lower rates of psychological distress. However—again—it is very important to note that psychological distress, eating disorders, and GPA all may be consequences of sexual assault victimization. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated measures were consequences of the victimization or if they were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*).

Continuing with measures of target vulnerability (RQ2) the variables for physical stature received mixed results (Hyp2B); the obese category was significant in the opposite direction than was originally hypothesized. For example, it was hypothesized that individuals who were obese would be significantly more likely to be the victim of sexual assault when compared to

individuals who reported being a healthy weight; instead they were significantly less likely to be the victim of sexual assault than the reference category of healthy weight. In comparison, being underweight and overweight were non-significant. Furthermore, the results for year in school were also mixed (Hyp2C). As originally predicted females who were juniors, seniors, and 4+ years in school were significantly less likely to be victimized than freshman females; but sophomore females were not at a significantly greater risk of victimization than freshman females. For example, females in college for 4+ years were 36% less likely to be the victim of sexual assault than freshman females. Finally, females who reported having one or more physical disabilities (Hyp2D) were significantly more likely—1.39 times more likely—to be the victim of sexual assault than females who did not report having any disability.

As Table 5.1 indicates, there is only partial support for the hypothesis that target antagonism contributes to risk of sexual assault victimization for females (RQ3). It was originally hypothesized that international student status (Hyp3A) would be significant in the analysis; however, it was not significant in the bivariate results. In contrast race (Hyp3B) was significant in predicting risk of sexual assault for females. White females were 1.13 times more likely to be the victim of sexual assault than non-white females; however this contradicted the original hypothesis that non-whites would be at greater risk.

Finally, sexual orientation did report some significant findings in the female-only subsample (Hyp3C). Bisexual females and females unsure of their sexual orientation were significantly more likely to be the victim of sexual assault compared to their heterosexual counterparts; however, lesbians were not significantly more likely to be the victim of sexual assault when compared to heterosexual females.

In comparison to females, the male-only subsample (Table 5.1) differed in several ways. Appendix G provides the model-fit statistics, while Appendix L provides the prevalence estimates. Roughly 4% (n=997) of the male subsample reported being the victim of sexual assault. First, eight different target congruence measures were non-significant in the male-only subsample (RQ1). When examining the measures for target vulnerability (RQ2) psychological distress, eating disorders, and GPA were all significant as originally predicted (Hyp2A). Males who reported having eating disorders were 6.39 times more likely to be the victim of sexual assault than males who did not report having an eating disorder. However, it is very important to note that psychological distress, eating disorders, and GPA all may be consequences of sexual assault victimization. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated measures were consequences of the victimization or if they were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*). This particular limitation should be addressed in future research, which is discussed further below. Physical stature (Hyp2B) and year in school (Hyp2C) reported no significant relationships. Like females, males who reported having one or more physical limitations were at significantly greater risk of sexual assault victimization. Males who reported having one or more physical limitations were 2.14 times more likely to be victimized than males who did not report having any physical limitations.

As Table 5.1 indicates, there is only partial support for the hypothesis that target antagonism contributes to risk of sexual assault victimization for males (RQ3). It was originally hypothesized that international student status (Hyp3A) would be significant in the analysis; however, it was not significant in the bivariate results. In contrast, race (Hyp3B) was significant in predicting risk of sexual assault for males; however, unlike females the relationship for males

was positive. In other words, nonwhite males were more likely to be the victim of sexual assault compared to white males this is consistent with the predicted hypothesis. Conversely, white females were more likely to be the victim of sexual assault than nonwhite females, which is counter to the predicted hypothesis. Finally, all categories of sexual orientation significantly differed from the reference category—heterosexual—for males. For example, gay men were 3.1 times more likely to be the victim of sexual assault than their heterosexual counterparts. Like race, another interesting difference reported between the male-only and female-only subsample was the fact that gay males reported an increased risk of sexual assault victimization compared to their heterosexual counterpart, while female lesbians did not report any significant difference in risk of victimization when compared to their heterosexual counterparts. The significant relationship for gay/lesbians when compared to heterosexual in the total bivariate sample may be due to the males in the sample, masking the non-significant relationship between gay/lesbian females and their risk of sexual assault victimization.

The overall bivariate results for sexual assault victimization show that there is mixed support for the target congruence measures. Several measures were consistently significant regardless of the sample: psychological distress, eating disorders, GPA, physical limitations, and the bisexual and the unsure categories of sexual orientation. In comparison, the categories of physical stature, year in school, race, and gay/lesbian vary in significance based on the sample. Last, international student status was not significant across any of the samples.

Sexual Touch Without Consent

Table 5.2 illustrates the bivariate results from the total sample, the female-only, and male-only subsamples and their risk of sexual touch without consent. Furthermore, Appendices M, N, and O provide all of the prevalence estimates for each sample type, as well as for each

independent variable examined, and the number of missing cases. Appendix H provides the model fit statistics. When examining the total sample roughly 6.81% reported being the victim of sexual touch without consent (n=5,113). A majority of the measures in the total sample were significant predictors of sexual touch without consent (RQ1; Hyp1); however, there was some variation between the predicated relationships and estimated relationships (eg., Hyp2B), which is discussed further below. Beginning with target vulnerability (RQ2)—as anticipated—psychological distress, eating disorders, and GPA all reported positive significant relationships with sexual touch without consent (Hyp2A); however, individuals who reported ‘N/A’ GPA were not significantly more likely to be the victim of sexual touch without consent than those who reported a GPA of ‘A’. For example, those who reported having an eating disorder were 3.33 times more likely to report sexual touch without consent than those who did not, while those who reported higher rates of psychological distress were 6.68 times more likely to experience sexual touch without consent. However, it is very important to note that psychological distress, eating disorders, and GPA all may be consequences of sexual touch without consent. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated measures were consequences of the victimization or if they were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*). This particular limitation should be addressed in future research, which is discussed further below.

In comparison to the psychological distress variables, the variables for physical stature received mixed results (Hyp2B); the overweight and obese categories were significant in the opposite direction than was originally hypothesized. For example, it was hypothesized that individuals who were overweight would be significantly more likely to be the victim of sexual

Table 5.2: Bivariate Binary Logistic Results for Sexual Touch Without Consent Victimization for the Total Sample and Female and Male Sub-Samples

Variables	<u>Total</u>			<u>Female</u>			<u>Male</u>		
	Coefficient (S.E)	Odds Ratio	Confidence Interval (95%)	Coefficient (S.E)	Odds Ratio	Confidence Interval (95%)	Coefficient (S.E)	Odds Ratio	Confidence Interval (95%)
<u>Target Vulnerability</u>									
Physical Stature									
Healthy weight (ref)									
Underweight	0.058 (.064)	1.06	0.934-1.202	-0.016 (.068)	0.983	0.858-1.125	0.081 (.182)	1.085	0.758-1.553
Overweight	-0.117 (.037)	0.889*	0.825-0.957	-0.080 (.043)	0.923	0.847-1.005	0.114 (.078)	1.121	0.960-1.308
Obese	-0.287 (.055)	0.749*	0.672-0.836	-0.280 (.062)	.755*	0.668-0.854	-0.115 (.121)	0.891	0.701-1.131
Psychological Distress	1.899 (.049)	6.681*	6.059-7.366	1.955 (.058)	7.066*	6.299-7.927	1.279 (.101)	3.593*	2.945-4.383
Eating Disorder	1.204 (.056)	3.334*	2.984-3.726	0.976 (.059)	2.656*	2.362-2.986	1.790 (.179)	5.994*	4.214-8.526
GPA									
A (ref)									
B	0.134 (.032)	1.144*	1.073-1.219	0.131 (.035)	1.140*	1.063-1.222	0.286 (.080)	1.332*	1.138-1.559
C	0.228 (.046)	1.256*	1.146-1.378	0.301 (.052)	1.351*	1.218-1.499	0.353 (.106)	1.423*	1.155-1.754
D/F	0.610 (.139)	1.841*	1.402-2.418	0.650 (.168)	1.917*	1.378-2.666	0.972 (.253)	2.643*	1.609-4.342
N/A	0.329 (.129)	1.390	1.079-1.790	0.308 (.144)	1.361	1.024-1.808	0.543 (.291)	1.721	0.972-3.050
Physical Limitations	0.399 (.065)	1.491*	1.310-1.697	0.338 (.078)	1.402*	1.202-1.634	0.764 (.124)	2.148*	1.682-2.745
Year in School									
Freshman (ref)									
Sophomore	0.025 (.038)	1.025	0.949-1.106	-0.007 (.043)	0.992	0.912-1.079	0.158 (.094)	1.171	0.972-1.410
Junior	-0.078 (.040)	0.924	0.853-1.001	-0.128 (.045)	0.879*	0.804-0.960	0.128 (.097)	1.136	0.939-1.375
Senior	-0.087 (.043)	0.961	0.841-0.996	-0.156 (.047)	0.854*	0.778-0.938	0.183 (.101)	1.201	0.985-1.465
4+ years	-0.418 (.088)	0.658*	0.553-0.782	-0.405 (.100)	0.666*	0.547-0.811	-0.194 (.186)	0.823	0.570-1.186
<u>Target Gratifiability</u>									
Sex	-0.919 (.037)	0.398*	0.370-0.429	-	-	-	-	-	-
<u>Target Antagonism</u>									
Sexual Orientation									
Heterosexual (ref)									
Gay/Lesbian	0.389 (.081)	1.475*	1.259-1.729	0.231 (.128)	1.259	0.978-1.621	1.083 (.108)	2.953*	2.387-3.654
Bisexual	1.028 (.055)	2.797*	2.509-3.119	0.902 (.059)	2.466*	2.193-2.773	1.163 (.154)	3.200*	2.362-4.334
Unsure	0.821 (.080)	2.273*	1.942-2.661	0.779 (.088)	2.180*	1.832-2.594	0.877 (.196)	2.405*	1.636-3.534
Race	0.061 (.034)	1.062	0.993-1.136	0.135 (.038)	1.145*	1.062-1.235	-0.205 (.076)	0.814*	0.700-0.945
Intl. Student	-0.245 (.056)	0.975	0.872-1.091	-0.018 (.063)	0.981	0.866-1.112	0.000 (.130)	1.000	0.775-1.291

*p<0.01

touch without consent when compared to individuals who reported being a healthy weight; instead they were significantly less likely to be the victim of sexual touch without consent than the reference category of healthy weight. In comparison, being underweight was non-significant. The final measure of target vulnerability—physical limitations (Hyp2D)—was significant in the predicted direction; those who reported having one or more physical limitations were 1.49 times more likely to be the victim of sexual touch without consent than those who did not report having any physical limitations. As Table 5.2 indicates, there is only partial support for the hypothesis that target antagonism contributes to risk of sexual touch without consent (RQ3). It was originally hypothesized that international student status (Hyp3A) and race (Hyp3B) would be significant in the analysis; however, neither were significant in the bivariate results. Comparatively, sexual orientation was significant across all categories. In other words, those who reported being gay/lesbian, bisexual, or unsure of their sexual orientation were significantly more likely to be the victim of sexual touch without consent than heterosexuals. For example, individuals who were bisexual were 2.79 times more likely to be victimized than those who reported being heterosexual. Finally, sex—the measure for target gratifiability—(RQ4; Hyp4) was a significant predictor of sexual touch without consent, with females reporting a 61% increase in risk compared to males.

Table 5.2 also shows the bivariate results for female risk of sexual touch without consent. Appendix H provides the model fit statistics for all of the variables in Table 5.2, while Appendix N provides the prevalence estimates for the female-only subsample. Roughly 8.5% (n=4,217) of females reported being the victim of sexual touch without consent. All except six target congruence measures were significant in predicting risk of sexual touch without consent (RQ1). However, there were several marked differences between the original hypotheses and the results

(RQ1). Marked differences were found across the variables of international student status, lesbian sexual orientation, race, and physical stature, discussed below. Beginning with target vulnerability (RQ2), as anticipated psychological distress, eating disorders, and GPA all reported positive significant relationships (Hyp2A) with sexual touch without consent for females; however, females who reported 'N/A' GPA were not significantly more likely to be the victim of sexual touch without consent than those who reported a GPA of 'A'. Females who reported greater rates of psychological distress were 6.06 times more likely to be the victim of sexual touch without consent than those with lower rates of psychological distress. However—again—it is very important to note that psychological distress, eating disorders, and GPA all may be consequences of sexual touch without consent. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated measures were consequences of the victimization or if they were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*).

Continuing with measures of target vulnerability (RQ2) the variables for physical stature received mixed results (Hyp2B); the obese category was significant in the opposite direction than was originally hypothesized. For example, it was hypothesized that individuals who were obese would be significantly more likely to be the victim of sexual touch without consent when compared to individuals who reported being a healthy weight; instead they were significantly less likely to be the victim of sexual touch without consent than the reference category of healthy weight. In comparison, being underweight and overweight was non-significant. Furthermore, the results for year in school were also mixed (Hyp2C). As originally predicted females who were juniors, seniors, and 4+ years in school were significantly less likely to be victimized than freshman females; but sophomore females were not at a significantly greater risk than freshman

females. For example, females in college for 4+ years were 36% less likely to be the victim of sexual touch without consent than freshman females. Finally, females who reported having one or more physical disabilities (Hyp2D) were 1.4 times more likely to be the victim of sexual touch without consent than females who did not report having any disability.

As Table 5.2 indicates, there is only partial support for the hypothesis that target antagonism contributes to risk of sexual touch without consent for females (RQ3). It was originally hypothesized that international student status (Hyp3A) would be significant in the analysis; however, it was not significant in the bivariate results. In contrast, race (Hyp3B) was significant in predicting risk of sexual touch without consent for females. White females were 1.14 times more likely to be the victim of sexual touch without consent than nonwhite females; however this contradicted the original hypothesis that nonwhites would be at greater risk.

Finally, sexual orientation did report some significant findings in the female-only subsample (Hyp3C). Bisexual females and females unsure of their sexual orientation were significantly more likely to be the victim of sexual touch without consent compared to their heterosexual counterparts; however, lesbians were not significantly more likely to be the victim of sexual touch without consent when compared to heterosexual females.

In comparison to females, the male-only subsample (Table 5.2) differed in several ways. Appendix G provides the model fit statistics, while Appendix O provides the prevalence estimates for the male-only subsample. Roughly 3.5% (n=896) of the male-only subsample reported being the victim of sexual touch without consent. First, nine different target congruence measures were non-significant in the male-only subsample (RQ1). When examining the measures for target vulnerability (RQ2) psychological distress, eating disorders, and GPA were all significant as originally predicted (Hyp2A). Males who reported having eating disorders were

6.99 times more likely to be the victim of sexual touch without consent than males who did not report having an eating disorder. However, it is very important to note that psychological distress, eating disorders, and GPA all may be consequences of sexual touch without consent. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated measures were consequences of the victimization or if they were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*). This particular limitation should be addressed in future research, which is discussed further below.

Physical stature (Hyp2B) and year in school (Hyp2C) reported no significant relationships. Like females, males who reported having one or more physical limitations were at significantly greater risk of sexual touch without consent. Males who reported having one or more physical limitation were 2.14 times more likely to be victimized than males who did not report having any physical limitations.

As Table 5.2 indicates, there is only partial support for the hypothesis that target antagonism contributes to risk of sexual touch without consent for males (RQ3). It was originally hypothesized that international student status (Hyp3A) would be significant in the analysis; however, it was not significant in the bivariate results. In contrast, race (Hyp3B) was significant in predicting risk of sexual touch without consent for males; however, unlike females the relationship for males was positive. In other words, nonwhite males were more likely to be the victim of sexual touch without consent compared to white males, which is consistent with the predicted hypothesis. Conversely, white females were more likely to be the victim of sexual touch without consent than nonwhite females, which is counter to the predicted hypothesis. Finally, all categories of sexual orientation significantly differed from the reference category—

heterosexual—for males. For example, gay men were 2.95 times more likely to be the victim of sexual touch without consent than their heterosexual counterparts. Like race, another interesting difference reported between the male-only and female-only subsample was the fact that gay males reported an increased risk of sexual touch without consent compared to their heterosexual counterparts, while female lesbians did not report any significant difference in risk of victimization when compared to their heterosexual counterparts. The significant relationship for gay/lesbians when compared to heterosexual in the total sample bivariate results may be due to the males in the sample, masking the non-significant relationship between lesbian females and their risk of sexual touch without consent.

The overall bivariate results for sexual touch without consent show that there is mixed support for the target congruence measures. Several measures were consistently significant regardless of the sample: psychological distress, eating disorders, GPA, physical limitations, and the bisexual and the unsure categories of sexual orientation. In comparison, the categories of physical stature, year in school, race, and gay/lesbian sexual orientation vary in significance based on the sample. Last, international student status was not significant across any of the samples.

Rape

Table 5.3 illustrates the bivariate results from the total sample, the female-only, and male-only subsamples and their risk of rape. Furthermore, Appendices P, Q, and R provide all of the prevalence estimates for each sample type, providing information for each independent variable examined as well the number of missing cases. Appendix I provides the model fit statistics. When examining the total sample, 3% (n=2,249) of sample reported being the victim of rape. A majority of the measures in the total sample were significant predictors of rape

(RQ1;Hyp1); however, there was some variation between the predicated relationships and estimated relationships (eg., Hyp2B), which is discussed further below. Beginning with target vulnerability (RQ2)—as anticipated—psychological distress, eating disorders, and GPA all reported positive significant relationships with rape (Hyp2A). For example, those who reported having an eating disorder were 4.1 times more likely to report being raped than those who did not, while those who reported higher rates of psychological distress were 7.82 times more likely to experience rape. However, it is very important to note that psychological distress, eating disorders, and GPA all may be consequences of rape. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated measures were consequences of the victimization or if they were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*). This particular limitation should be addressed in future research, which is discussed further below.

In comparison to the psychological distress variables, the variables for physical stature received mixed results (Hyp2B); the overweight category was significant in the opposite direction than was originally hypothesized. For example, it was hypothesized that individuals who were overweight would be significantly more likely to be the victim of rape when compared to individuals who reported being a healthy weight; instead they were significantly less likely to be the victim of rape than the reference category of healthy weight. In comparison, being underweight and obese were non-significant. The final measure of target vulnerability—physical limitations (Hyp2D)—was significant in the predicted direction; those who reported having one or more physical limitations were 1.5 times more likely to be the victim of rape than those who did not report having any physical limitations. As Table 5.3 indicates, there is only partial support for the hypothesis that target antagonism contributes to risk of rape (RQ3). It was

Table 5.3: Bivariate Binary Logistic Results for Rape Victimization for the Total Sample and Female and Male Sub-Samples

Variables	<u>Total</u>			<u>Female</u>			<u>Male</u>		
	Coefficient (S.E)	Odds Ratio	Confidence Interval (95%)	Coefficient (S.E)	Odds Ratio	Confidence Interval (95%)	Coefficient (S.E)	Odds Ratio	Confidence Interval (95%)
Target Vulnerability									
Physical Stature									
Healthy weight (ref)									
Underweight	0.019 (.096)	1.019	0.844-1.230	-0.075 (.101)	0.926	0.760-1.130	0.135 (.313)	1.145	0.619-2.116
Overweight	-0.175 (.056)	0.838*	0.750-0.937	-0.091 (.062)	0.912	0.807-1.031	0.030 (.142)	1.030	0.779-1.363
Obese	-0.182 (.078)	0.833	0.713-0.972	-0.163 (.086)	0.849	0.717-1.006	0.061 (.199)	1.063	0.718-1.570
Psychological Distress	2.057 (.075)	7.826*	6.747-9.079	2.113 (.086)	8.276*	6.985-9.086	1.047 (.175)	2.851*	2.021-4.020
Eating Disorder	1.412 (.073)	4.105*	3.556-4.738	1.093 (.078)	2.983*	2.560-3.476	2.634 (.211)	13.933*	9.198-21.105
GPA									
A (ref)									
B	0.187 (.048)	1.205*	1.096-1.326	0.209 (.051)	1.232*	1.113-1.364	0.254 (.143)	1.290	0.973-1.709
C	0.327 (.068)	1.387*	1.212-1.586	0.412 (.074)	1.511*	1.305-1.749	0.492 (.181)	1.636*	1.146-2.336
D/F	0.897 (.181)	2.453*	1.720-3.499	1.063 (.202)	2.895*	1.947-4.304	1.017 (.429)	2.765	1.192-6.414
N/A	0.643 (.168)	1.903*	1.367-2.648	0.562 (.189)	1.754*	1.210-2.542	1.229 (.377)	3.419*	1.632-7.161
Physical Limitations	0.408 (.095)	1.503*	1.247-1.813	0.242 (.114)	1.274	1.018-1.595	1.244 (.179)	3.469*	2.441-4.929
Year in School									
Freshman (ref)									
Sophomore	-0.022 (.056)	0.978	0.874-1.093	-0.033 (.060)	0.966	0.858-1.088	0.026 (.175)	1.026	0.728-1.446
Junior	-0.130 (.059)	0.877	0.780-0.986	-0.193 (.064)	0.823*	0.726-0.934	0.261 (.168)	1.298	0.933-1.806
Senior	-0.205 (.064)	0.813*	0.717-0.923	-0.297 (.069)	0.742*	0.647-0.851	0.315 (.174)	1.371	0.974-1.930
4+ years	-0.404 (.127)	0.667*	0.519-0.857	-0.381 (.140)	0.682*	0.517-0.899	-0.042 (.314)	0.958	0.517-1.775
Sex	-1.281 (.063)	0.277*	0.244-0.314	-	-	-	-	-	-
Sexual Orientation									
Heterosexual (ref)									
Gay/Lesbian	0.342 (.120)	1.409*	1.111-1.785	0.089 (.194)	1.093	0.746-1.601	1.492 (.166)	4.446*	3.208-6.161
Bisexual	0.999 (.079)	2.716*	2.326-3.171	0.814 (.083)	2.258*	1.915-2.662	1.507 (.238)	4.516*	2.827-7.213
Unsure	0.871 (.112)	2.390*	1.919-2.977	0.676 (.126)	1.966*	1.534-2.519	1.727 (.245)	5.624*	3.475-9.102
Race	0.045 (.050)	1.046	0.947-1.155	0.147 (.055)	1.158*	1.039-1.291	-0.478 (.126)	0.619*	0.483-0.794
Intl. Student	-0.010 (.083)	0.989	0.840-1.166	-0.040 (.091)	0.959	0.801-1.149	-0.253 (.207)	1.288	0.857-1.934

*p<0.01

originally hypothesized that international student status (Hyp3A) and race (Hyp3B) would be significant in the analysis; however, neither were significant in the bivariate results.

Comparatively, sexual orientation was significant across all categories. In other words, those who reported being gay/lesbian, bisexual, or unsure of their sexual orientation were significantly more likely to be a victim rape than heterosexuals. For example, individuals who were bisexual were 2.71 times more likely to be victimized than those who reported being heterosexual.

Finally, sex—the measure for target gratifiability—(RQ4; Hyp4) was a significant predictor of rape, with females reporting an 83% increase in risk compared to males.

Table 5.3 also reports the bivariate results for females and risk of rape victimization. Appendix I provides the model fit statistics for all of the variables in Table 5.3, while Appendix Q provides the prevalence estimates for the female-only subsample. Close to 4% (n=1,965) of the female-only subsample reported being the victim of rape. A majority of the target congruence measures were significant in predicting risk of rape for females (RQ1). However, there were several marked differences between the original hypotheses and the results (RQ1). Marked differences were found across the variables of international student status, lesbian sexual orientation, race, and physical stature, discussed below. Beginning with target vulnerability (RQ2), as anticipated psychological distress, eating disorders, and GPA all reported positive significant relationships (Hyp2A) with rape for female. Females who reported greater rates of psychological distress were 8.27 times more likely to the victim of rape than those who reported lower rates of psychological distress. However—again—it is very important to note that psychological distress, eating disorders, and GPA all may be consequences of rape victimization. Given the cross-sectional nature of the data it cannot be determined if the psychological distress

and associated measures were consequences of the victimization or if they were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*).

Continuing with measures of target vulnerability (RQ2) there was no significant relationship between any of the categories of physical stature and the reference category of healthy weight (Hyp2B). Next, the results for year in school were mixed (Hyp2C). As originally predicted females who were juniors, seniors, and 4+ years in school were significantly less likely to be victimized than freshman females; but sophomore females were not at a significantly greater risk than freshman females. For example, females in college for 4+ years were 32% less likely to be the victim of rape than freshman females. Finally, females who reported having one or more physical disabilities (Hyp2D) were not significantly more likely to be the victim or rape compared to females who reported having no disabilities.

As Table 5.3 indicates, there is only partial support for the hypothesis that target antagonism contributes to risk of rape for females (RQ3). It was originally hypothesized that international student status (Hyp3A) would be significant in the analysis; however, it was not significant in the bivariate results. In contrast, race (Hyp3B) was significant in predicting risk of rape for females. White females were 1.15 times more likely to be the victim of rape than nonwhite females; however this contradicted the original hypothesis that nonwhites would be at greater risk.

Finally, sexual orientation did report some significant findings in the female-only subsample (Hyp3C). Bisexual females and females unsure of their sexual orientation were significantly more likely to be the victim of rape compared to their heterosexual counterparts; however, lesbians were not significantly more likely to be the victim of rape when compared to heterosexual females.

In comparison to females, the male-only subsample (Table 5.3) differed in several ways. Appendix I provides the model fit statistics, while Appendix R provides the prevalence estimates for male rape victims. Roughly 1.13% (284) of the male subsample reported being the victim of rape. First, ten different target congruence measures were non-significant in the male-only subsample (RQ1). When examining the measures for target vulnerability (RQ2), psychological distress and eating disorders were significant as originally predicted (Hyp2A). Males who reported having eating disorders were almost 14 times more likely to be the victim of rape than males who did not report having an eating disorder. In comparison, males only reported a significant increase in risk of victimization for those who reported having a 'C' or 'N/A' GPA when compared to the reference category of 'A' GPA. However, it is very important to note that psychological distress, eating disorders, and GPA all may be consequences of rape. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated measures were consequences of the victimization or if they were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*). This particular limitation should be addressed in future research, which is discussed further below. Furthermore, given the large variation in the confidence intervals the results should be regarded with caution as it points to low base-rates (see Appendix R for prevalence estimates).

Continuing with target vulnerability, physical stature (Hyp2B) and year in school (Hyp2C) reported no significant relationships. Unlike females, males who reported having one or more physical limitations were at significantly greater risk of rape (Hyp2D). Males who reported having one or more physical limitations were 3.46 times more likely to be victimized than males who did not report having any physical limitations.

As Table 5.3 indicates, there is only partial support for the hypothesis that target antagonism contributes to risk of rape for males (RQ3). It was originally hypothesized that international student status (Hyp3A) would be significant in the analysis; however, it was not significant in the bivariate results. In contrast, race (Hyp3B) was significant in predicting risk of rape for males; however, unlike females the relationship for males was positive. In other words, nonwhite males were more likely to be the victim of rape compared to white males. Conversely, white females were more likely to be the victim of rape than nonwhite females. Finally, all categories of sexual orientation significantly differed from the reference category—heterosexual—for males. For example, gay men were 4.46 times more likely to be the victim of rape than their heterosexual counterparts. Like race, another interesting difference reported between the male-only and female-only subsample was the fact that gay males reported an increased risk of rape compared to their heterosexual counterparts, while female lesbians did not report any significant difference in risk of victimization when compared to their heterosexual counterparts. The significant relationship for gay/lesbians when compared to heterosexual in the total sample bivariate results may be due to the males in the sample, masking the non-significant relationship between gay/lesbian females and their risk of rape.

The overall bivariate results for rape show that there is mixed support for the target congruence measures. Several measures were consistently significant regardless of the sample: psychological distress, eating disorders, and the bisexual and the unsure categories of sexual orientation. In comparison, the categories of physical stature, year in school, GPA, physical limitations, race, and gay/lesbian sexual orientation vary in significance based on the sample. Last, international student status was not significant across any of the samples.

MULTIVARIATE RESULTS

Below are the results from the multivariate analyses. Because the focus of this dissertation is on target congruence the discussion of the results concerning lifestyle-routine activities measures will be kept brief; however, they are included in order to help understand the importance of lifestyle factors in victimization (see Chapter 2 and Chapter 3). Two separate models, for all samples, across all dependent variables will be estimated. First, a partial model of just lifestyle-routine activities measures will be presented, followed by a full model, which includes lifestyle-routine activities measures and target congruence measures. Several different statistics will be presented in both models; the unstandardized coefficient (b) and the standard error (S.E) for b are reported. Also presented are the odds ratios (Exp. B) and the 95% confidence interval for each. The significance is reported for $p < 0.01$ (see Chapter 4 for more on the importance of these statistics). Finally, in the full model the Wald test statistics will be provided to examine whether target congruence variables significantly add to the explanatory power of the model. Also, it is important to remember that because the data are clustered among 129 different universities across the US robust standard errors will be provided, specifically the Huber-White Sandwich. By providing the robust standard errors and accounting for clustering it allows the analysis to relax its independent errors assumption in a limited way, this is important because errors may be correlated within subgroups or clusters of the data (Hamilton, 2009). Thus, the odds ratios have been adjusted to account for the clusters.

Also discussed below are the equality of coefficients tests for each of the different types of victimization and target congruence measures. As discussed in Chapter 4, given the importance of sex in understanding sexual victimization of college students (see also Chapter 2) there may be significant differences in risk of sexual victimization based on the sex of the

individual. Thus, there is a potential for interaction between sex and all of the independent variables. An equality of coefficients test can or may indicate if the target congruence measures have a more profound impact on risk among males or females. It is important to note here that the negative or positive results—Z scores—are not indicative of the direction of the relationship, but rather tell the reader which sex is at an increased risk based on the outcome.⁶

Sexual Assault Victimization

Table 5.4 provides the partial model multivariate binary logistic regression results for sexual assault victimization for the total sample, as well as the female and male subsamples. Again, because the focus of this dissertation is not on lifestyle-routine activities theory the discussion of this table and its results will be kept brief. Table 5.5 provides the full model multivariate binary logistic regression results for sexual assault victimization for the total sample, as well as the female and male subsamples. First, a discussion of the total sample, then females, and then males will be presented. Next, a discussion of the equality of coefficients results will be discussed followed by a brief summary of the sexual assault victimization results. It is necessary to point out here that the Wald test statistics comparing the partial (nested) model to the full model can be found at the bottom of Table 5.5. Furthermore, Appendices J, K, and L provide the prevalence estimates for the total, female-only, and male-only subsamples, respectively. These statistics can help shed light on large confidence intervals (especially for the male-only subsample) where low base-rates might be reported. As discussed above, roughly 9.5% (n=4,713) of the total sample reported being the victim of sexual assault, 7.6% (n=5,710)

⁶ For the equation and a better understanding of what this means see Paternoster et al., 1998. Also note, female b and SE were reported first in all of the equations. This can help the reader interpret which measure the significance is being reported for.

of females reported being the victim of sexual assault, and roughly 4% (n=997) of males reported being the victim of sexual assault.

As Tables 5.4 and 5.5 show almost all of the lifestyle-routine activities measures were significant when examining the total sample, much of which is consistent with past research (see Table 2.2 in Chapter 2). For example, the more serious drug use one reports doing, the more their risk of sexual assault victimization is increased by 2.39 times in the partial model (Table 5.4) and 1.85 times in the full model (Table 5.5). Of all the lifestyle-routine activities measures, fraternity/sorority membership, alcohol use, and housing were not significant. Conversely, receiving crime prevention information was significant in the opposite direction than was originally hypothesized. For example, it was originally hypothesized that receiving crime prevention information would reduce one's risk of sexual assault victimization because it would increase one's personal accountability and guardianship, but sexual assault victimization and receiving crime prevention information reported a positive significant relationship. It is necessary to point out that risk-avoidance behaviors, discussed in Table 5.4 and 5.5, may be the result of victimization. In other words, individuals who have been victims in past may begin to use risk-avoidance behaviors as a result of their victimization. Given the cross-sectional nature of the data it is impossible to know whether the victimization or risk-avoidance behaviors came first. Thus, these results should be regarded with caution, which will be discussed further in Chapter 6. As Table 5.4 indicates the overall model was significant in predicting risk of sexual assault victimization.

The target congruence variables for the total sample showed mixed results (RQ1; Hyp1). First, when examining the target vulnerability (RQ2) factors of psychological distress and eating disorders, they both reported a positive significant relationship with risk of sexual assault

victimization even when controlling for the lifestyle-routine activities measures (Hyp2A). For example, those who reported having an eating disorder were 1.47 times more likely to be the victim of sexual assault than those who did not report having an eating disorder. Conversely, the categories of GPA reported no significance when compared to the reference category of ‘A’ GPA, which is counter to the original hypothesis (Hyp2A). However, it is very important to note that psychological distress, eating disorders, and GPA may all be consequences of sexual assault victimization. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated measures were consequences of the victimization or if they were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*). This particular limitation should be addressed in future research, which is discussed further below.

Like the bivariate results physical stature did not behave the way it was originally predicted (Hyp2B). In comparison, as originally predicted, individuals who were juniors, seniors, and 4+ years in school were significantly less likely to be victimized than freshman; but sophomores were not at a significantly greater risk than freshman. For example, individuals in college for 4+ years were 40% less likely to be the victim of sexual assault than freshman. Finally, individuals who reported having one or more physical limitations (Hyp2D) were 1.22 times more likely to be the victim of sexual assault than who did not report having any limitation.

Next, the measures of target antagonism also reported mixed results (RQ3). As with the bivariate results, international student status and race were not significant (Hyp3A; Hyp3B); however, the other target antagonism variable—sexual orientation (Hyp3C)—remained significant even while controlling for the lifestyle-routine activities measures in their originally

Table 5.4: Partial Model Multivariate Logistic Regression Results for Sexual Assault Victimization for the Total Sample, Female-only, and Male –only Subsamples

	<u>Total</u>			<u>Female</u>			<u>Male</u>		
<u>Variables</u>	<u>B (S.E)</u>	<u>OR</u>	<u>CI(95%)</u>	<u>B (S.E)</u>	<u>OR</u>	<u>CI(95%)</u>	<u>B (S.E)</u>	<u>OR</u>	<u>CI(95%)</u>
<u>Lifestyle-Routine Activities Variables</u>									
Proximity									
Housing	0.273 (.037)	1.313*	1.221-1.413	0.262 (.039)	1.299*	1.203-1.404	0.104 (.083)	1.110	0.942-1.308
Exposure									
Binge Drinking	0.047 (.036)	1.049	1.620-1.787	0.121 (.040)	1.129*	1.043-1.221	0.200 (.100)	1.222	1.003-1.488
Alcohol Use	0.229 (.066)	1.258*	1.099-1.439	0.094 (.072)	1.099	0.954-1.266	-0.180 (.151)	0.835	0.620-1.123
Marijuana Use	0.226 (.042)	1.254*	1.154-1.362	0.255 (0.44)	1.290*	1.182-1.408	0.148 (.085)	1.160	0.981-1.137
Serious Drug Use	0.845 (.079)	2.329*	1.992-2.722	0.838 (.092)	1.313*	1.930-2.772	1.079 (.139)	2.944*	2.239-3.871
Number of Sexual Partners	0.531 (.025)	1.702*	1.620-1.787	0.653 (.029)	1.921*	1.813-2.035	0.422 (.035)	1.526*	1.423-1.636
Athletic Participation	-0.149 (.036)	0.861*	0.800-0.952	0.065 (.043)	1.067	0.979-1.163	-0.124 (.079)	0.883	0.755-1.032
Fraternity/Sorority Member	-0.039 (.048)	0.961	0.873-1.057	-0.101 (.054)	0.903	0.811-1.005	0.112 (.118)	1.118	0.886-1.411
Volunteer	0.330 (.035)	1.391*	1.298-1.491	0.261 (.039)	1.299*	1.201-1.404	0.276 (.084)	1.318*	1.117-1.555
Employed	0.119 (.028)	1.126*	1.066-1.191	0.052 (.032)	1.053	0.988-1.123	0.104 (.066)	1.150	1.009-1.311
Target Attractiveness									
Relationship Status	-0.335 (.033)	0.715*	0.669-0.763	-0.446 (.040)	0.640*	0.591-0.692	-0.171 (.068)	0.842	0.736-0.962
Risk-Avoidance Behaviors	-0.088 (.020)	0.915*	0.879-0.952	-0.111 (.024)	0.894*	0.852-0.939	-0.186 (.039)	0.829*	0.768-0.896
Guardianship									
Received Crime Prevention Information	0.182 (.035)	1.199*	1.112-1.294	0.200 (.038)	1.221*	1.132-1.317	0.077 (.098)	1.081	0.891-1.311
-2 Log Likelihood	-16992.041			-12974.997			-3456.6418		
(Wald) Chi-Squared	1618.21*			1959.31*			615.60*		
Pseudo R2	0.0681			0.0823			0.0707		

*p<0.01

Table 5.5: Full Model Multivariate Logistic Regression Results for Sexual Assault Victimization for the Total Sample, Female-only, and Male-only Subsamples

Variables	<u>Total</u>			<u>Female</u>			<u>Male</u>		
	B (S.E.)	OR	CI (95%)	B (S.E.)	OR	CI (95%)	B (S.E.)	OR	CI (95%)
<u>Lifestyle-Routine Activities Variables</u>									
Proximity									
Housing	0.097 (.041)	1.101	1.014-1.196	0.104 (.046)	1.110	1.014-1.215	0.049 (.083)	1.050	0.891-1.1.237
Exposure									
Binge Drinking	0.198 (.035)	1.220*	1.138-1.307	0.179 (.038)	1.196*	1.108-1.290	0.301 (.099)	1.351*	1.111-1.643
Alcohol Use	0.099 (.066)	1.104	0.968-1.258	0.162 (.073)	1.176	1.018-1.359	-0.260 (.145)	0.770	0.910-1.292
Marijuana Use	0.137 (.041)	1.146*	1.056-1.245	0.153 (.045)	1.166*	1.066-1.275	0.081 (.089)	1.084	0.910-1.292
Serious Drug Use	0.616 (.079)	1.851*	1.854-2.164	0.489 (.092)	1.630*	1.361-1.954	0.900 (.158)	2.461*	1.805-3.355
Number of Sexual Partners	0.519 (.022)	1.681*	1.608-1.756	0.588 (.028)	1.801*	1.704-1.904	0.352 (.035)	1.422*	1.327-1.523
Athletic Participation	0.111 (.038)	1.117*	1.037-1.204	0.126 (.042)	1.134*	1.044-1.232	0.092 (.080)	1.097	0.938-1.283
Fraternity/Sorority Member	-0.001 (.049)	0.998	0.906-1.100	-0.034 (.053)	0.965	0.869-1.073	0.158 (.117)	1.171	0.930-1.474
Volunteer	0.282 (.035)	1.327*	1.237-1.422	0.289 (.040)	1.335*	1.233-1.446	0.238 (.083)	1.269*	1.079-1.494
Employed	0.099 (.026)	1.104*	1.047-1.164	0.091 (.032)	1.096*	1.029-1.167	0.123 (.067)	1.131	0.990-1.292
Target Attractiveness									
Relationship Status	-0.336 (.033)	0.714*	0.669-0.762	-0.393 (.039)	0.674*	0.624-0.728	-0.074 (.070)	0.928	0.808-1.065
Risk-Avoidance Behaviors	-0.105 (.020)	0.899*	0.864-0.936	-0.078 (.024)	0.924*	0.881-0.968	-0.193 (.038)	0.824*	0.763-0.889
Guardianship									
Received Crime Prevention Information	0.175 (.035)	1.191*	1.111-1.278	0.198 (.037)	1.219*	1.133-1.311	0.079 (.099)	1.082	0.891-1.315
<u>Target Congruence Variables</u>									
Target Vulnerability									
Physical Stature									
Healthy Weight (reference)									
Underweight	0.049 (.066)	1.051	0.922-1.197	0.051 (.074)	1.052	0.910-1.217	-0.013 (.187)	0.986	0.682-1.425
Overweight	-0.051 (.043)	0.949	0.872-1.033	-0.084 (.054)	0.918	0.826-1.021	0.052 (.076)	1.053	0.906-1.223
Obese	-0.216 (.054)	0.805*	0.723-0.897	-0.240 (.061)	0.785*	0.696-0.887	-0.141 (.135)	0.868	0.665-1.132
Psychological Distress	1.388 (.064)	4.007*	3.535-4.543	1.546 (.068)	4.695*	4.105-5.371	0.854 (.131)	2.351*	1.818-3.039
Eating Disorder	0.390 (.064)	1.477*	1.302-1.676	0.329 (.064)	1.389*	1.224-1.577	0.832 (.238)	2.299*	1.440-3.671
GPA									
A (reference)									
B	0.017 (.031)	1.017	0.956-1.083	-0.021 (.038)	0.978	0.908-1.054	0.210 (.070)	1.234*	1.075-1.416
C	0.079 (.049)	1.082	0.982-1.192	0.083 (.057)	1.086	0.971-1.215	0.117 (.119)	1.125	0.890-1.420
D/F	0.238 (.161)	1.269	0.925-1.741	0.140 (.173)	1.151	0.819-1.618	0.592 (.267)	1.809	1.070-3.058
N/A	0.194 (.110)	1.214	0.978-1.507	0.118 (.120)	1.125	0.888-1.425	0.555 (.275)	1.743	1.015-2.991
Physical Limitations	0.200 (.077)	1.222*	1.049-1.423	0.161 (.080)	1.175	1.003-1.376	0.303 (.170)	1.354	0.969-1.893

*p<.01

Table 5.5 Continued: Full Model Multivariate Logistic Regression Results for Sexual Assault Victimization for the Total Sample, Female-only, and Male-only Subsamples

	<u>Total</u>			<u>Female</u>			<u>Male</u>		
<u>Variables</u>	<u>B (S.E.)</u>	<u>OR</u>	<u>CI(95%)</u>	<u>B (S.E.)</u>	<u>OR</u>	<u>CI(95%)</u>	<u>B (S.E.)</u>	<u>OR</u>	<u>CI(95%)</u>
Year in School									
Freshman (reference)									
Sophomore	-0.074 (.046)	0.928	0.847-1.016	-0.089 (.051)	0.914	0.825-1.012	-0.011 (.102)	0.988	0.808-1.207
Junior	-0.215 (.053)	0.806*	0.726-0.895	-0.258 (.053)	0.772*	0.695-0.858	-0.022 (.115)	0.977	0.779-1.225
Senior	-0.223 (.054)	0.799*	0.717-0.895	-0.285 (.066)	0.751*	0.660-0.855	0.044 (.112)	1.046	0.839-1.302
+4 Years	-0.510 (.100)	0.600*	0.492-0.730	-0.511 (.113)	0.599*	0.479-0.749	-0.465 (.223)	0.627	0.404-0.973
Target Gratifiability									
Sex	-1.021 (.052)	0.360*	0.325-0.389				-		
Target Antagonism									
Sexual Orientation									
Heterosexual (reference)									
Gay/Lesbian	0.255 (.076)	1.290*	1.110-1.500	-0.077 (.125)	0.925	0.723-1.184	0.788 (.127)	2.199*	1.714-2.822
Bisexual	0.444 (.062)	1.560*	1.380-1.764	0.362 (.069)	1.426*	1.254-1.645	0.934 (.158)	2.544*	1.864-3.474
Unsure	0.461 (.075)	1.587*	1.369-1.839	0.401 (.085)	1.493*	1.262-1.766	0.757 (.199)	2.131*	1.442-3.151
Race	-0.097 (.041)	0.907	0.836-0.983	-0.046 (.042)	0.955	0.878-1.037	-0.351 (.094)	0.703*	0.584-0.846
International Student Status	-0.044 (.062)	0.956	0.845-1.082	-0.044 (.070)	0.956	0.833-1.098	-0.084 (.153)	0.919	0.680-1.241
<u>Controls</u>									
Pub/Priv	0.072 (.047)	1.075	0.979-1.180	0.105 (.053)	1.111	1.001-1.233	-0.069 (.095)	0.932	0.773-1.124
Survey Type	-0.013 (.076)	0.986	0.849-1.146	0.048 (.077)	1.050	0.902-1.222	-0.208 (.117)	0.811	0.645-1.020
-2 Log Likelihood	-15931.206			-12504.112			-3342.0497		
(Wald) Chi-Squared	4123.61*			4203.68*			828.41*		
Pseudo R2	0.1263			0.1156			0.1015		
	Wald Chi2			Wald Chi2			Wald Chi2		
Block 1	1618.21*			1959.31*			615.50*		
Block 2	1701.31*			782.49*			294.59*		

*p<0.01

hypothesized direction. For example, individuals who reported being bisexual were 1.56 times more likely to be the victim of sexual assault than their heterosexual counterparts.

Last, sex—the only measure of target gratifiability (RQ4; Hyph4)—appears to be the second strongest predictor of all the target congruence measures in the total model; females were 64% more likely to be the victim of sexual assault compared to males. Psychological distress was the overall strongest predictor among the target congruence measures and lifestyle-routine activities measures. Individuals who reported higher rates of psychological distress were four times more likely to be the victim of sexual assault (to be regarded with caution, see above). Eating disorders and bisexual and unsure sexual orientation were the third and fourth strongest predictors among the target congruence measures. Individuals who reported having eating disorders were 1.47 times more likely to be victimized, while individuals who reported they were bisexual or unsure of their sexual orientation were 1.6 times more likely to be the victim of a sexual assault compared to heterosexuals.

Overall, the total sample, full model for sexual assault victimization was significant. Furthermore, the addition of the target congruence measures significantly improved prediction above and beyond just using the lifestyle-routine activities variables, the partial model. These results will be discussed more in Chapter 6.

When examining the female-only subsample almost all of the lifestyle-routine activities measures were significant predictors of risk of sexual assault victimization in both the partial and full models (Table 5.4 and Table 5.5; see Appendix K for prevalence estimates). For lifestyle-routine activities alcohol use, athletic participation, sorority membership, and employment were non-significant in the partial model (Table 5.4), while sorority membership, housing, and alcohol use were non-significant in the full model (Table 5.5). Serious drug use and number of sexual

partners reported the strongest effects among the lifestyles-routine activities variables; serious drug use increased the risk of sexual assault victimization among females 1.63 times in the full model, while number of sexual partners increased risk 1.8 times. Conversely, receiving crime prevention information was significant in the opposite direction than was originally hypothesized. For example, it was originally hypothesized that receiving crime prevention information would reduce one's risk of sexual assault victimization because it would increase one's personal accountability and guardianship, but sexual assault victimization and receiving crime prevention information reported a positive significant relationship. It is necessary to point out that risk-avoidance behaviors, discussed in Table 5.4 and 5.5, may be the result of victimization. In other words, individuals who have been victims in past may begin to use risk-avoidance behaviors as a result of their victimization. Given the cross-sectional nature of the data it is impossible to know whether the victimization or risk-avoidance behaviors came first. Thus, these results should be regarded with caution, which will be discussed further in Chapter 6. As Table 5.4 indicates the partial model was significant in predicting risk of sexual assault victimization for females.

Like the total sample, the target congruence variables for the female sample showed mixed results (RQ1; Hyp1). First, when examining the target vulnerability (RQ2) factors of psychological distress and eating disorders, they both reported a positive significant relationship with risk of sexual assault victimization even when controlling for the lifestyle-routine activities measures (Hyp2A). For example, those who reported having an eating disorder were 1.38 times more likely to be the victim of sexual assault victimization than those who did not report having an eating disorder. Conversely, the categories of GPA reported no significance when compared to the reference category of 'A' GPA, which is counter to the original hypothesis (Hyp2A).

However, it is very important to note that psychological distress, eating disorders, and GPA all may be consequences of sexual assault victimization. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated measures were consequences of the victimization or if they were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*). This particular limitation should be addressed in future research, which is discussed further below.

Like the bivariate results physical stature did not behave the way it was originally predicted (Hyp2B). In comparison, and as originally predicted, individuals who were juniors, seniors, and 4+ years in school were significantly less likely to be victimized than freshman; but sophomores were not at a significantly greater risk of victimization than freshman (Hyp2C). For example, individuals in college for 4+ years were 40% less likely to be the victim of sexual assault than their freshman counterparts. Finally, physical limitations did not report a significant relationship with sexual assault victimization for the female-only subsample, which is counter to the original hypothesis (Hyp2D).

Next, the measures of target antagonism also reported mixed results (RQ3). As with the bivariate results, international student status and race were not significant (Hyp3A; Hyp3B); however, the other target antagonism variable—sexual orientation (Hyp3C)—remained significant even while controlling for the lifestyle-routine activities measures in their originally hypothesized direction, with the exception of lesbians. For example, females who reported being bisexual were 1.42 times more likely to be the victim of sexual assault than their heterosexual counterparts. In comparison, lesbians did not report a significantly increased risk of sexual assault victimization compared to their heterosexual counterparts.

Overall, the full model of the female-only subsample for sexual assault victimization was significant. Furthermore, the addition of the target congruence measures significantly improved prediction above and beyond just using the lifestyle-routine activities variables, as shown in the partial model. Psychological distress, number of sexual partners, and serious drug use appear to have the strongest effect on risk of victimization for females. However, the results for psychological distress should be regarded with some caution given the cross-sectional nature of the data. These results and limitations will be discussed further in Chapter 6.

In comparison to the female-only model, the male-only subsample shown in Table 5.4 and Table 5.5 reported several significant differences between hypothesized predictions and the results for both lifestyle-routine activities and target congruence measures (see Appendix L for prevalence estimates). Less than half of the lifestyle-routine activities measures were significant. Variables such as relationship status, marijuana use, and employment, which were significant in the full model and among the female-only subsample, were not significant among males. Like the other models, serious drug use appears to be one of the strongest predictors of risk of sexual assault victimization for males among the lifestyle-routine activities measures in both the partial and full models (Table 5.4 and Table 5.5). Males who reported greater rates of serious drug use are 2.46 times more likely to be sexually assaulted compared to those who report lower/ no rates of serious drug use, shown in the full model.

The target congruence variables for the male-only subsample showed mixed results (RQ1; Hyp1). First, when examining the target vulnerability (RQ2) factors of psychological distress and eating disorders, they both reported a positive significant relationship with risk of sexual assault victimization even when controlling for the lifestyle-routine activities measures (Hyp2A). For example, males who reported having an eating disorder were 2.29 times more

likely to be the victim of sexual assault than those who did not report having an eating disorder. Conversely, the categories of GPA only reported a positive significant difference between males who responded that they had a 'B' GPA compared to males who reported they received an 'A' GPA. All of the other categories reported no significance when compared to the reference category of 'A' GPA, which is counter to the original hypothesis (Hyp2A). However, it is very important to note that psychological distress, eating disorders, and GPA all may be consequences of sexual assault victimization. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated measures were consequences of the victimization or if they were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*). This particular limitation should be addressed in future research, which is discussed further below. Again, like the bivariate results physical stature did not behave the way it was originally predicted (Hyp2B). Furthermore, year in school (Hyp2C) and physical limitations (Hyp2D) were not significant predictors of risk of sexual assault victimization for males as was originally hypothesized.

Next, the measures of target antagonism also reported mixed results for males (RQ3). As with the bivariate results, international student status was not significant (Hyp3A). Race reported a negative significance, meaning that nonwhite males were 30% more likely to be the victim of sexual assault than white males, which is consistent with the original hypothesis (Hyp3B). Finally, sexual orientation (Hyp3C) remained significant even while controlling for the lifestyle-routine activities measures in their originally hypothesized direction. For example, males who reported being bisexual were 2.54 times more likely to be the victim of sexual assault than their heterosexual counterparts.

Overall, the full model of the male-only subsample for sexual assault victimization was significant. Furthermore, the addition of the target congruence measures significantly improved prediction above and beyond just using the lifestyle-routine activities variables, as shown in the partial model. Bisexual sexual orientation, psychological distress, and eating disorders appear to have the strongest effect on risk of victimization for males. However, the results for psychological distress and eating disorders should be regarded with some caution given the cross-sectional nature of the data. These results and limitations will be discussed further in Chapter 6.

Table 5.6 provides the results from the equality of coefficients test to examine if there is a significant difference between females and males among the predictors of sexual assault victimization for the target congruence measures. As stated at the beginning of the chapter in order to understand and interpret the results more carefully readers should reference Paternoster et al. (1998). For ease in interpretation it should be noted that females were reported first in the equation; this matters in interpreting the results because the positive or negative nature of the coefficient for both males and females will change the positive or negative nature of the Z-Score. This positive or negative sign is only helpful in indicating which subsample the target congruence measure has a more profound effect on. Thus, an indicator has been added to explain whether females or males are exhibiting the effect for measures that are significant to help with ease of interpretation.

Several of the target congruence measures were significantly different between males and females. For example, as indicated in Table 5.5, both males and females who reported higher rates of psychological distress were at significantly greater risk of sexual assault victimization.

However, after conducting an equality of coefficients test, the effect of psychological distress on risk of victimization is more pronounced among females than males (Table 5.6).

Table 5.6: Equality of Coefficients Results for Sexual Assault Victimization Risk Between Females and Males

Target Congruence Variables	Z-Score
Target Vulnerability	
Physical Stature	
Underweight	0.083
Overweight	-1.458
Obese	-0.668
Psychological Distress	4.688*†
Eating Disorder	-2.040
GPA	
B	-2.900*
C	-0.257
D/F	-1.420
N/A	
Physical Limitations	-0.755
Year in School	
Sophomore	0.184
Junior	-1.451
Senior	-2.530*†
+4 Years	-0.184
Target Antagonism	
Sexual Orientation	
Gay/Lesbian	-4.854*
Bisexual	-3.317*
Unsure	-1.645
Race	2.962*
International Student Status	0.237

*p<0.01

†Female pronounced effect

Conversely, males were at a significantly greater risk of sexual assault victimization compared to females on all the measures of sexual orientation with the exception of those who were unsure of their sexual orientation. Also, males who reported a 'B' GPA and nonwhite males also had a more pronounced effect than females on risk of sexual assault victimization.

Overall, there are several interesting findings across all three samples for sexual assault victimization. First, lifestyle-routine activities measures provided some of the strongest predictors of sexual assault victimization across all three samples. For example, serious drug use and number of sexual partners were consistently two of the strongest predictors of victimization across all three samples. However, when looking at the subsamples of females and males, it appears as though lifestyle-routine activities measures are better predictors for risk of victimization for females rather than males. Even though lifestyle-routine activities provided some of the strongest measures overall across all three models, target congruence still had many strong predictors as well. Specifically, psychological distress reported the strongest effects across all three models and across all three sample types; however, as stated above and below this should be regarded with caution given the cross-sectional nature of the data. Finally, sex in the total sample and sexual orientation for both males and females in the subsamples were strong predictors, which will be discussed more in-depth in Chapter 6.

When comparing males to females for risk of sexual assault victimization it is clear that there are different factors contributing to the risk for each sex. Again, lifestyle-routine activities measures have several more significant predictors for females compared to males. Likewise, risk varies across the target congruence measures as well. For example, when examining the target congruence measures it appears as though sexual orientation is one of the strongest risk factors of sexual assault victimization for males above and beyond that of females. Yet, females appear to have a more pronounced risk concerning psychological distress and year in school. However, as stated several times throughout this chapter it is important to regard the psychological distress results with caution considering the cross-sectional nature of the data. This information may be helpful in not only understanding risk of sexual assault victimization, but also in creating and

guiding effective policy prevention and intervention efforts (see Chapter 6). Finally, when considering the partial model compared to the full model there is a significant increase in predictive power of the three samples, across all three models showing that the addition of the target congruence measures is not only helpful, but also warranted when considering future research on sexual victimization.

Sexual Touch Without Consent

Table 5.7 provides the partial model multivariate binary logistic regression results for sexual touch without consent for the total sample, as well as the female and male subsamples. Again, because the focus of this dissertation is not on lifestyle-routine activities theory the discussion of this table and its results will be kept brief. Table 5.8 provides the full model multivariate binary logistic regression results for sexual touch without consent for the total sample, as well as the female and male subsamples. First, a discussion of the total sample, then females, and then males will be presented. Next, a discussion of the equality of coefficients results will be discussed followed by a brief summary of the sexual touch without consent results. It is necessary to point out here that the Wald test statistics comparing the partial (nested) model to the full model can be found at the bottom of Table 5.8. Furthermore, Appendices M, N, and O provide the prevalence estimates for the total, female-only, and male-only subsamples, respectively. These statistics can help shed light on large confidence intervals (especially for the male-only subsample) where low base-rates might be reported. As discussed above, roughly 6.8% (n=5,113) of the total sample reported being the victim of sexual touch without consent, roughly 8.5% (n=4,217) of females reported being the victim of sexual touch without consent, and roughly 3.5% (n=896) of males reported being the victim of sexual assault.

As Tables 5.7 and 5.8 show almost all of the lifestyle-routine activities measures were significant when examining the total sample, much of which is consistent with past research (see Table 2.2 in Chapter 2). For example, the more serious drug use one reports doing, the more their risk of sexual touch without consent is increased by 2.22 times in the partial model (Table 5.7) and 1.74 times in the full model (Table 5.8). Of all the lifestyle-routine activities measures, fraternity/sorority membership, alcohol use, and housing were not significant. Conversely, receiving crime prevention information was significant in the opposite direction than was originally hypothesized. For example, it was originally hypothesized that receiving crime prevention information would reduce one's risk of sexual touch without consent because it would increase one's personal accountability and guardianship, but sexual touch without consent and receiving crime prevention information reported a positive significant relationship. It is necessary to point out that risk-avoidance behaviors, discussed in Table 5.7 and 5.8, may be the result of victimization. In other words, individuals who have been victims in the past may begin to use risk-avoidance behaviors as a result of their victimization. Given the cross-sectional nature of the data it is impossible to know whether the victimization or risk-avoidance behaviors came first. Thus, these results should be regarded with caution, which will be discussed further in Chapter 6. As Table 5.8 indicates the overall model was significant in predicting risk of sexual touch without consent.

The target congruence variables for the total sample showed mixed results (RQ1; Hyp1). First, when examining the target vulnerability (RQ2) factors of psychological distress and eating disorders, they both reported a positive significant relationship with risk of sexual touch without consent even when controlling for the lifestyle-routine activities measures (Hyp2A). For example, those who reported having an eating disorder were 1.47 times more likely to be the

victim of sexual touch without consent than those who did not report having an eating disorder. Conversely, the categories of GPA reported no significance when compared to the reference category of 'A' GPA, which is counter to the original hypothesis (Hyp2A). However, it is very important to note that psychological distress, eating disorders, and GPA all may be consequences of sexual touch without consent. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated measures were consequences of the victimization or if they were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*). This particular limitation should be addressed in future research, which is discussed further below.

Like the bivariate results physical stature did not behave the way it was originally predicted (Hyp2B). In comparison—and as originally predicted—individuals who were juniors, seniors, and 4+ years in school were significantly less likely to be victimized than freshman; but sophomores were not at a significantly greater risk than freshman. For example, individuals in college for 4+ years were 40% less likely to be the victim of sexual touch without consent than freshman. Finally, individuals who reported having one or more physical limitations (Hyp2D) were 1.23 times more likely to be the victim of sexual touch without consent than who did not report having any physical limitation.

Next, the measures of target antagonism also reported mixed results (RQ3). As with the bivariate results, international student status and race were not significant (Hyp3A; Hyp3B); however, the other target antagonism variable—sexual orientation (Hyp3C)—remained significant even while controlling for the lifestyle-routine activities measures in their originally hypothesized direction. For example, individuals who reported being bisexual were 1.66 times more likely to be the victim of sexual touch without consent than their heterosexual counterparts.

Table 5.7: Partial Model Multivariate Logistic Regression Results for Sexual Touch Without Consent for the Total Sample, Female-only, and Male-only Subsamples

	<u>Total</u>			<u>Female</u>			<u>Male</u>		
<u>Variables</u>	<u>B (S.E)</u>	<u>OR</u>	<u>CI(95%)</u>	<u>B (S.E)</u>	<u>OR</u>	<u>CI(95%)</u>	<u>B (S.E)</u>	<u>OR</u>	<u>CI(95%)</u>
<u>Lifestyle-Routine Activities Variables</u>									
Proximity									
Housing	0.254 (.035)	1.290*	1.203-1.383	0.243 (.038)	1.275*	1.183-1.374	0.090 (.080)	1.094	0.935-1.281
Exposure									
Binge Drinking	0.049 (.039)	1.050	0.971-1.136	0.122 (.043)	1.130*	1.037-1.232	0.181 (.106)	1.198	0.972-1.487
Alcohol Use	0.239 (.070)	1.270*	1.106-1.458	0.106 (.072)	1.112	0.965-1.281	-0.140 (.409)	0.868	0.622-1.212
Marijuana Use	0.221 (.041)	1.248*	1.150-1.354	0.253 (.044)	1.287*	1.180-1.405	0.213 (.172)	1.131	0.947-1.350
Serious Drug Use	0.801 (.076)	2.227*	1.916-2.589	0.803 (.093)	2.233*	1.858-2.684	1.012 (.137)	2.751*	2.103-3.599
Number of Sexual Partners	0.494 (.024)	1.639*	1.561-1.720	0.604 (.031)	1.830*	1.721-1.946	0.397 (.037)	1.487*	1.383-1.600
Athletic Participation	-0.151 (.037)	0.859*	0.798-0.924	0.050 (.043)	1.052	0.966-1.145	-0.109 (.081)	0.896	0.763-1.051
Fraternity/Sorority Member	-0.049 (.048)	0.952	0.865-1.046	-0.124 (.053)	0.882	0.794-0.980	0.157 (.116)	1.170	0.930-1.472
Volunteer	0.341 (.0360)	1.406*	1.309-1.510	0.273 (.041)	1.314*	1.211-1.426	0.283 (.087)	1.327*	1.118-1.575
Employed	0.117 (.028)	1.124*	1.062-1.189	0.048 (.032)	1.050	0.984-1.120	0.153 (.078)	1.165	0.999-1.359
Target Attractiveness									
Relationship Status	-0.316 (.037)	0.728*	0.677-0.783	-0.422 (.043)	0.655*	0.601-0.714	-0.159 (.070)	0.852	0.743-0.978
Risk-Avoidance Behaviors	-0.086 (.020)	0.917*	0.880-0.955	-0.107 (.024)	0.898*	0.855-0.943	-0.186 (.042)	0.830*	0.763-0.902
Guardianship									
Received Crime Prevention Information	0.197 (.037)	1.218*	1.132-1.311	0.223 (.040)	1.250*	1.154-1.353	0.058 (.084)	1.059	0.898-1.250
-2 Log Likelihood	-15847.048			-12148.069			-3219.1328		
(Wald) Chi-Squared	1506.16*			1737.49*			572.19*		
Pseudo R2	0.0613			0.0737			0.0640		

*p<0.01

Table 5.8: Full Model Multivariate Logistic Regression Results for Sexual Touch Without Consent for the Total Sample, Female-only, and Male-only Subsamples

Variables	<u>Total</u>			<u>Female</u>			<u>Male</u>		
	B (S.E.)	OR	CI(95%)	B (S.E.)	OR	CI(95%)	B (S.E.)	OR	CI(95%)
<u>Lifestyle-Routine Activities Variables</u>									
Proximity									
Housing	0.082 (.041)	1.085	1.001-1.177	0.097 (.045)	1.102	1.008-1.205	0.008 (.083)	1.008	0.856-1.188
Exposure									
Binge Drinking	0.195 (.038)	1.216*	1.126-1.312	0.180 (.042)	1.198*	1.102-1.302	0.272 (.105)	1.313*	1.067-1.616
Alcohol Use	0.109 (.068)	1.115	0.974-1.276	0.168 (.073)	1.183	1.025-1.366	-0.209 (.162)	0.811	0.589-1.116
Marijuana Use	0.125 (.041)	1.133*	1.045-1.228	0.146 (.044)	1.158*	1.061-1.263	0.050 (.096)	1.052	0.871-1.270
Serious Drug Use	0.557 (.078)	1.746*	1.497-2.035	0.439 (.097)	1.552*	1.283-1.877	0.824 (.157)	2.281*	1.676-3.105
Number of Sexual Partners	0.477 (.022)	1.612*	1.543-1.685	0.534 (.029)	1.706*	1.610-1.809	0.331 (.036)	1.393*	1.297-1.496
Athletic Participation	0.104 (.038)	1.110*	1.030-1.196	0.116 (.042)	1.123*	1.034-1.219	0.087 (.083)	1.091	0.927-1.283
Fraternity/Sorority Member	-0.011 (.048)	0.988	0.898-1.087	-0.057 (.051)	0.943	0.852-1.044	0.195 (.116)	1.215	0.967-1.527
Volunteer	0.293 (.036)	1.341*	1.248-1.441	0.300 (.042)	1.350*	1.243-1.466	0.252 (.086)	1.287*	1.086-1.526
Employed	0.095 (.0280)	1.100*	1.041-1.163	0.083 (.032)	1.087	1.019-1.160	0.139 (.080)	1.149	0.981-1.134
Target Attractiveness									
Relationship Status	-0.313 (.036)	0.731*	0.680-0.786	-0.368 (.043)	0.691*	0.635-0.752	-0.062 (.071)	0.939	0.816-1.081
Risk-Avoidance Behaviors	-0.100 (.020)	0.904*	0.868-0.942	-0.073 (.024)	0.929*	0.886-0.974	-0.190 (.041)	0.826*	0.761-0.896
Guardianship									
Received Crime Prevention Information	0.191 (.035)	1.210*	1.129-1.298	0.222 (.039)	1.248*	1.155-1.349	0.062 (.085)	1.064	0.900-1.260
<u>Target Congruence Variables</u>									
Target Vulnerability									
Physical Stature									
Healthy Weight (reference)									
Underweight	0.075 (.066)	1.078	0.945-1.229	0.067 (.074)	1.070	0.924-1.238	0.092 (.191)	1.097	0.754-2.447
Overweight	-0.055 (.045)	0.946	0.866-1.033	-0.100 (.057)	0.904	0.808-1.012	0.079 (.080)	1.083	0.925-1.268
Obese	-0.208 (.056)	0.811*	0.726-0.906	-0.226 (.062)	0.797*	0.704-0.901	-0.165 (.136)	0.847	0.648-1.106
Psychological Distress	1.437 (.066)	4.210*	3.692-4.801	1.593 (.072)	4.930*	4.277-5.682	0.917 (.135)	2.503*	1.920-3.263
Eating Disorder	0.388 (.067)	1.475*	1.293-1.682	0.328 (.069)	1.388*	1.211-1.592	0.857 (.239)	2.357*	1.473-3.771
GPA									
A (reference)									
B	0.035 (.034)	1.036	0.968-1.108	0.000 (.042)	1.000	0.920-1.087	0.205 (.073)	1.228*	1.064-1.417
C	0.097 (.051)	1.101	0.995-1.219	0.103 (.058)	1.108	0.988-1.243	0.119 (.128)	1.126	0.876-1.449
D/F	0.171 (.168)	1.186	0.853-1.650	0.075 (.167)	1.078	0.776-1.497	0.498 (.304)	1.646	0.906-2.991
N/A	0.131 (.112)	1.140	0.914-1.423	0.097 (.130)	1.102	0.853-1.423	0.303 (.308)	1.353	0.740-2.477
Physical Limitations	0.212 (.079)	1.236*	1.057-1.446	0.173 (.087)	1.189	1.001-1.412	0.316 (.170)	1.372	0.983-1.916

*p<.01

Table 5.8 Continued: Full Model Multivariate Logistic Regression Results for Sexual Touch Without Consent for the Total Sample, Female-only, and Male-only Subsamples

Variables	<u>Total</u>			<u>Female</u>			<u>Male</u>		
	B (S.E.)	OR	CI(95%)	B (S.E.)	OR	CI(95%)	B (S.E.)	OR	CI(95%)
Year in School									
Freshman (reference)									
Sophomore	-0.061 (.046)	0.940	0.858-1.030	-0.078 (.052)	0.924	0.833-1.024	0.014 (.109)	1.014	0.819-1.256
Junior	-0.193 (.052)	0.824*	0.743-0.914	-0.226 (.053)	0.797*	0.718-0.885	-0.045 (.118)	0.955	0.756-1.205
Senior	-0.209 (.053)	0.811*	0.731-0.900	-0.252 (.060)	0.777*	0.689-0.875	-0.017 (.116)	0.982	0.782-1.234
+4 Years	-0.495 (.108)	0.609*	0.492-0.753	-0.469 (.122)	0.625*	0.491-0.795	-0.554 (.243)	0.574	0.356-0.924
Target Gratifiability									
Sex	-0.971 (.051)	0.378*	0.342-0.418						
Target Antagonism									
Sexual Orientation									
Heterosexual (reference)									
Gay/Lesbian	0.226 (.079)	1.254*	1.073-1.466	-0.076 (.129)	0.926	0.718-1.193	0.703 (.135)	2.020*	1.548-2.636
Bisexual	0.507 (.066)	1.660*	1.457-1.891	0.446 (.072)	1.563*	1.356-1.801	0.862 (.162)	2.368*	1.723-3.253
Unsure	0.473 (.083)	1.605*	1.369-1.893	0.448 (.096)	1.566*	1.295-1.894	0.572 (.227)	1.773	1.135-2.770
Race	-0.073 (.040)	0.929	0.857-1.006	-0.028 (.042)	0.972	0.893-1.056	-0.298 (.098)	0.742*	0.621-0.885
International Student Status	0.000 (.064)	1.000	0.881-1.134	-0.004 (.069)	0.995	0.868-1.141	-0.023 (.162)	0.977	0.710-1.344
<u>Controls</u>									
Pub/Priv	0.080 (.048)	1.084	0.986-1.191	00.102 (.052)	1.108	0.999-1.228	-0.016 (.098)	0.983	0.811-1.192
Survey Type	-0.017 (.071)	0.982	0.854-1.130	0.054 (.072)	1.055	0.916-1.215	-0.236 (.114)	0.789	0.631-0.987
-2 Log Likelihood	-14875.962			-11689.61			-3118.6911		
(Wald) Chi-Squared	3806.07*			3752.31*			767.04*		
Pseudo R2	0.1189			0.1086			0.0932		
	Wald Chi2			Wald Chi2			Wald Chi2		
Block 1	1506.16*			1737.49 *			572.19*		
Block 2	1404.70*			804.90*			296.72*		

*p<0.01

Last, sex—the only measure of target gratifiability (RQ4; Hyph4)—appears to be the second strongest predictor of all the target congruence measures in the total model; females were 63% more likely to be the victim of sexual touch without consent compared to males. Psychological distress was the overall strongest predictor among the target congruence measures and lifestyle-routine activities measures. Individuals who reported higher rates of psychological distress were over four times more likely to be the victim of sexual touch without consent (to be regarded with caution, see above). Eating disorders and bisexual and unsure sexual orientation were the third and fourth strongest predictors among the target congruence measures. Individuals who reported having eating disorders were 1.47 times more likely to be victimized, while individuals who reported they were bisexual or unsure of their sexual orientation were 1.6 times more likely to be the victim of sexual touch without consent compared to heterosexuals.

Overall, the total sample, full model for sexual touch without consent was significant. Furthermore, the addition of the target congruence measures significantly improved prediction above and beyond just using the lifestyle-routine activities variables, the partial model. These results will be discussed more in Chapter 6.

When examining the female-only subsample almost all of the lifestyle-routine activities measures were significant predictors of risk of sexual touch without consent in both the partial and full models (Table 5.7 and Table 5.8). For lifestyle-routine activities alcohol use, athletic participation, sorority membership, and employment were non-significant in the partial model (Table 5.7), while sorority membership, housing, employment, and alcohol use were non-significant in the full model (Table 5.8). Serious drug use and number of sexual partners reported the strongest effects among the lifestyles-routine activities variables; serious drug use increased the risk of sexual assault victimization among females 1.55 times in the full model, while

number of sexual partners increased risk 1.7 times. Conversely, receiving crime prevention information was significant in the opposite direction than was originally hypothesized. For example, it was originally hypothesized that receiving crime prevention information would reduce one's risk of sexual touch without consent because it would increase one's personal accountability and guardianship, but sexual touch without consent and receiving crime prevention information reported a positive significant relationship. It is necessary to point out that risk-avoidance behaviors, discussed in Table 5.7 and 5.8 may be the result of a victimization. Given the cross-sectional nature of the data it is impossible to know whether the victimization or risk-avoidance behaviors came first. Thus, these results should be regarded with caution, which will be discussed further in Chapter 6. As Table 5.7 indicates the partial model was significant in predicting risk of sexual touch without consent for females.

Like the total sample, the target congruence variables for the female sample showed mixed results (RQ1; Hyp1). The prevalence estimates for the female-only subsample can be found in Appendix N. First, when examining the target vulnerability (RQ2) factors of psychological distress and eating disorders, they both reported a positive significant relationship with risk of sexual touch without consent even when controlling for the lifestyle-routine activities measures (Hyp2A). For example, those who reported having an eating disorder were 1.38 times more likely to be the victim of sexual touch without consent than those who did not report having an eating disorder. Conversely, the categories of GPA reported no significance when compared to the reference category of 'A' GPA, which is counter to the original hypothesis (Hyp2A). However, it is very important to note that psychological distress, eating disorders, and GPA all may be consequences of sexual touch without consent. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated measures were

consequences of the victimization or if they were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*). This particular limitation should be addressed in future research, which is discussed further below.

Like the bivariate results, physical stature did not behave the way it was originally predicted (Hyp2B). In comparison, and as originally predicted, individuals who were juniors, seniors, and 4+ years in school were significantly less likely to be victimized than freshman; but sophomores were not at a significantly greater risk than their freshman counterparts (Hyp2C). For example, individuals in college for 4+ years were 38% less likely to be the victim of sexual touch without consent than freshman. Finally, physical limitations did not report a significant relationship with sexual touch without consent for the female-only subsample, which is counter to the original hypothesis (Hyp2D).

Next, the measures of target antagonism also reported mixed results (RQ3). As with the bivariate results, international student status and race were not significant (Hyp3A; Hyp3B); however, the other target antagonism variable—sexual orientation (Hyp3C)—remained significant even while controlling for the lifestyle-routine activities measures in their originally hypothesized direction, with the exception of lesbians. For example, females who reported being bisexual were 1.56 times more likely to be the victim of sexual touch without consent than their heterosexual counterparts. In comparison, lesbians did not report a significantly increased risk of sexual touch without consent compared to their heterosexual counterparts.

Overall, the full model of the female-only subsample for sexual touch without consent was significant. Furthermore, the addition of the target congruence measures significantly improved prediction above and beyond just using the lifestyle-routine activities variables, as shown in the partial model. Psychological distress, number of sexual partners, unsure and

bisexual sexual orientation, and serious drug use appear to have the strongest effect on risk of victimization for females. However, the results for psychological distress should be regarded with some caution given the cross-sectional nature of the data. These results and limitations will be discussed further in Chapter 6.

In comparison to the female-only model, the male-only subsample shown in Table 5.7 and Table 5.8 reported several significant differences between hypothesized predictions and the results for both lifestyle-routine activities and target congruence measures. Less than half of the lifestyle-routine activities measures were significant. Variables such as relationship status, marijuana use, and athletic participation, which were significant in the full model and among the female-only subsample, were not significant among males. Like the other models, serious drug use appears to be one of the strongest predictors of risk of sexual touch without consent for males among the lifestyle-routine activities measures in both the partial and full models (Table 5.7 and Table 5.8). Males who reported greater rates of serious drug use are 2.28 times more likely to be the victim of sexual touch without consent compared to those who report lower/ no rates of serious drug use, shown in the full model.

The target congruence variables for the male-only subsample showed mixed results (RQ1; Hyp1). First, when examining the target vulnerability (RQ2) factors of psychological distress and eating disorders, they both reported a positive significant relationship with risk of sexual touch without consent even when controlling for the lifestyle-routine activities measures (Hyp2A). For example, males who reported having an eating disorder were 2.37 times more likely to be the victim of sexual touch without consent those who did not report having an eating disorder. However, given the large confidence intervals these results should be regarded with some caution. Appendix O provides the prevalence estimates for males, which may be helpful in

interpreting these results and exemplifying the low base-rates. Conversely, the categories of GPA only reported a positive significant difference between males who responded that they had a 'B' GPA compared to males who reported they received an 'A' GPA. All of the other categories reported no significance when compared to the reference category of 'A' GPA, which is counter to the original hypothesis (Hyp2A). However, it is very important to note that psychological distress, eating disorders, and GPA all may be consequences of sexual touch without consent. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated measures were consequences of the victimization or if they were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*). This particular limitation should be addressed in future research, which is discussed further below. Again, like the bivariate results physical stature did not behave the way it was originally predicted (Hyp2B). Furthermore, year in school (Hyp2C) and physical limitations (Hyp2D) were not significant predictors of risk of sexual touch without consent for males as was originally hypothesized.

Next, the measures of target antagonism also reported mixed results for males (RQ3). As with the bivariate results, international student status was not significant (Hyp3A). Race reported a negative significance, meaning that nonwhite males were 26% more likely to be the victim of sexual touch without consent than white males, which is consistent with the original hypothesis (Hyp3B). Finally, sexual orientation (Hyp3C) remained significant even while controlling for the lifestyle-routine activities measures in their originally hypothesized direction. For example, males who reported being bisexual were 2.36 times more likely to be the victim of sexual touch without consent than their heterosexual counterparts. However, there was one exception, males

unsure of their sexual orientation were not a greater risk of sexual touch without consent compared to their heterosexual counterparts, which is inconsistent with the predicted hypothesis.

Overall, the full model of the male-only subsample for sexual touch without consent was significant. Furthermore, the addition of the target congruence measures significantly improved prediction above and beyond just using the lifestyle-routine activities variables, as shown in the partial model. Bisexual sexual orientation, psychological distress, and eating disorders appear to have the strongest effect on risk of victimization for males. However, the results for psychological distress and eating disorders should be regarded with some caution given the cross-sectional nature of the data. These results and limitations will be discussed further in Chapter 6.

Table 5.9 provides the results from the equality of coefficients test to examine if there is a significant difference between females and males among the predictors of sexual touch without consent for the target congruence measures. As stated at the beginning of the chapter in order to understand and interpret the results more carefully readers should reference Paternoster et al. (1998). For ease in interpretation it should be noted that females were reported first in the equation; this matters in interpreting the results because the positive or negative nature of the coefficient for both males and females will change the positive or negative nature of the Z-Score. This positive or negative sign is only helpful in indicating which subsample the target congruence measure has a more profound effect on. Thus, an indicator has been added to explain whether females or males are exhibiting the effect for measures that are significant.

Table 5.9: Equality of Coefficients Results for Sexual Touch Without Consent Risk Between Females and Males

Target Congruence	
Variables	Z-Score
Target Vulnerability	
Physical Stature	
Underweight	-0.122
Overweight	-1.822
Obese	-0.434
Psychological Distress	4.418*†
Eating Disorder	-2.126*
GPA	
B	-2.434*
C	-0.113
D/F	-1.219
N/A	-0.616
Physical Limitations	-0.748
Year in School	
Sophomore	-0.761
Junior	-1.399
Senior	-1.799
+4 Years	0.312
Target Antagonism	
Sexual Orientation	
Gay/Lesbian	-4.171*
Bisexual	-2.143
Unsure	-0.503
Race	2.532*
International Student	
Status	1.317

*p<0.01

†Female pronounced effect

Several of the target congruence measures were significantly different between males and females. For example, as indicated in Table 5.8, both males and females who reported higher rates of psychological distress were at significantly greater risk of sexual touch without consent. However, after conducting an equality of coefficients test, the effect of psychological distress on risk of victimization is more pronounced among females than males. Conversely, males were at a significantly greater risk of sexual touch without consent compared to females for the category of

gay/lesbian compared to their heterosexual counterparts, eating disorders, race, and the category of 'B' GPA.

Overall, there are several interesting findings across all three samples for sexual touch without consent. First, lifestyle-routine activities measures provided some of the strongest predictors of sexual touch without consent across all three samples. For example, serious drug use and number of sexual partners were consistently two of the strongest predictors of victimization across all three samples. However, when looking at the subsamples of females and males, it appears as though lifestyle-routine activities measures are better predictors for risk of victimization for females rather than males. Even though lifestyle-routine activities provided some of the strongest measures overall, across all three models target congruence still had many strong predictors as well. Specifically, psychological distress reported the strongest effects across all three models; however, as discussed above and below this should be regarded with caution. Also, sex in the total sample and sexual orientation for both males and females in the subsamples were strong predictors, which will be discussed more in-depth in Chapter 6.

When comparing males to females for risk of sexual touch without consent it is clear that there are different factors contributing to the risk for each sex. Again, lifestyle-routine activities measures have several more significant predictors for females compared to males. Likewise, risk varies across the target congruence measures as well. For example, when examining the target congruence measures it appears as though sexual orientation is one of the strongest risk factors of sexual touch without consent for males above and beyond that of females. Yet, females appear to have a more pronounced risk concerning psychological distress and year in school. However, as stated several times throughout this chapter it is important to regard the psychological distress results with caution considering the cross-sectional nature of the data. This information may be

helpful in not only understanding risk of sexual touch without consent, but also in creating and guiding effective policy prevention and intervention efforts (see Chapter 6). Finally, when considering the partial model compared to the full model there is a significant increase in predictive power of the three samples, across all three models showing that the addition of the target congruence measures is not only helpful, but also warranted when considering future research on sexual victimization.

Rape

Table 5.10 provides the partial model multivariate binary logistic regression results for rape for the total sample, as well as the female and male subsamples. Again, because the focus of this dissertation is not on lifestyle-routine activities theory the discussion of this table and its results will be kept brief. Table 5.11 provides the full model multivariate binary logistic regression results for rape for the total sample, as well as the female and male subsamples. First, a discussion of the total sample, then females, and then males will be presented. Next, a discussion of the equality of coefficients results will be discussed followed by a brief summary of the rape results. It is necessary to point out here that the Wald test statistics comparing the partial (nested) model to the full model can be found at the bottom of Table 5.11. Appendices P, Q, and R provide the prevalence estimates for victimization for the total sample, female-only subsample, and the male-only subsample, respectively. These statistics can help shed light on large confidence intervals (especially for the male-only subsample) where low base-rates might be reported. As discussed above, 3% (n=2,249) of the total sample reported being raped, roughly 4 % (n=1,965) of females reported being raped, and roughly 1.1% (n=284) of males reported being raped.

As Tables 5.10 and 5.11 show, less than half of the lifestyle-routine activities measures were significant when examining the total sample, which is somewhat consistent with past research (see Table 2.2 in Chapter 2). For example, the more serious drug use one reports doing, the more their risk of rape is increased by 2.18 times in the partial model (Table 5.10) and 1.73 times in the full model (Table 5.11). Of all the lifestyle-routine activities measures, fraternity/sorority membership, alcohol use, employment, housing, marijuana use, athletic participation, risk avoidance behaviors, and employment were not significant. It is necessary to point out that risk-avoidance behaviors, discussed in Table 5.10 and 5.11 (but only significant in the partial model: Table 5.10) may be the result of a victimization. Given the cross-sectional nature of the data it is impossible to know whether the victimization or risk-avoidance behaviors came first. Thus, these results should be regarded with caution, which will be discussed further in Chapter 6. As Table 5.10 indicates the overall model was significant in predicting risk of rape.

The target congruence variables for the total sample showed mixed results (RQ1; Hyp1). First, when examining the target vulnerability (RQ2) factors of psychological distress and eating disorders, they both reported a positive significant relationship with risk of rape even when controlling for the lifestyle-routine activities measures (Hyp2A). For example, those who reported having an eating disorder were 1.54 times more likely to be the victim of rape than those who did not report having an eating disorder. Conversely, the categories of GPA reported no significance when compared to the reference category of 'A' GPA, which is counter to the original hypothesis (Hyp2A). However, it is very important to note that psychological distress, eating disorders, and GPA all may be consequences of rape victimization. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated measures were consequences of the victimization or if they were risk factors preceding the

victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*). This particular limitation should be addressed in future research, which is discussed further below.

Like the bivariate results, physical stature did not behave the way it was originally predicted (Hyp2B). In comparison—as originally predicted—individuals who were juniors, seniors, and 4+ years in school were significantly less likely to be victimized than freshman; but sophomores were not at a significantly greater risk of rape victimization than freshman. For example, individuals in college for 4+ years were 40% less likely to be the victim of rape than freshman. Finally, individuals who reported having one or more physical limitations (Hyp2D) were not more likely to be the victim of rape than those who reported having no physical limitations, this finding is counter to the original hypothesis.

Next, the measures of target antagonism also reported mixed results (RQ3). As with the bivariate results, international student status and race were not significant (Hyp3A; Hyp3B); however, the other target antagonism variable—sexual orientation (Hyp3C)—remained significant even while controlling for the lifestyle-routine activities measures in their originally hypothesized direction, with the exception of gay/lesbians. For example, individuals who reported being bisexual were 1.38 times more likely to be the victim of rape than their heterosexual counterparts, while gays and lesbians did not report a significant difference in risk compared to their heterosexual counterparts.

Last, sex—the only measure of target gratifiability (RQ4; Hyph4)—appears to be the second strongest predictor of all the target congruence measures in the total model; females were 78% more likely to be raped compared to males. Psychological distress was the, overall, strongest predictor among the target congruence measures and lifestyle-routine activities measures. Individuals who reported higher rates of psychological distress were over four times

Table 5.10: Partial Model Multivariate Binary Logistic Regression Results for Rape for the Total Sample, Female-only, and Male-only Subsamples

	<u>Total</u>			<u>Female</u>			<u>Male</u>		
Variables	B (S.E)	OR	CI(95%)	B (S.E)	OR	CI(95%)	B (S.E)	OR	CI(95%)
<u>Lifestyle-Routine Activities Variables</u>									
Proximity									
Housing	0.259 (.056)	1.296*	1.159-1.449	0.215 (.059)	1.239*	1.103-1.393	0.188 (.170)	1.207	0.864-1.686
Exposure									
Binge Drinking	0.035 (.058)	1.036	0.924-1.161	0.100 (.065)	1.105	0.972-1.256	0.288 (.202)	1.334	0.897-1.986
Alcohol Use	0.113 (.119)	1.120	0.887-1.415	-0.090 (.117)	0.913	0.972-1.256	-0.382 (.330)	0.682	0.357-1.303
Marijuana Use	0.190 (.059)	1.209*	1.075-1.359	0.166 (.072)	1.181	1.023-1.362	0.072 (.169)	1.074	0.771-1.498
Serious Drug Use	0.781 (.109)	2.185*	1.764-2.706	0.778 (.125)	2.177*	1.702-2.784	1.163 (.194)	3.201*	2.186-4.685
Number of Sexual Partners	0.690 (.032)	1.995*	1.870-2.128	0.918 (.039)	2.505*	2.319-2.705	0.514 (.046)	1.673*	1.527-1.833
Athletic Participation	-0.212 (.056)	0.808*	0.724-0.902	0.053 (.061)	1.054	0.935-1.189	-0.195 (.123)	0.822	0.645-1.048
Fraternity/Sorority Member	0.008 (.067)	1.008	0.883-1.152	-0.017 (.079)	0.982	0.840-1.148	0.067 (.213)	1.069	0.703-1.625
Volunteer	0.303 (.051)	1.354*	1.225-1.497	0.221 (.055)	1.247*	1.118-1.392	0.243 (.140)	1.276	0.969-1.680
Employed	0.064 (.056)	1.066	0.954-1.191	-0.026 (.056)	0.974	0.871-0.929	0.198 (.141)	1.219	0.923-1.609
Target Attractiveness									
Relationship Status	-0.289 (.051)	0.748*	0.676-0.829	-0.366 (.055)	0.693*	0.621-0.772	-0.211 (.142)	0.809	0.611-1.070
Risk-Avoidance Behaviors	-0.109 (.034)	0.896*	0.838-0.958	-0.139 (.033)	0.870*	0.814-0.929	-0.175 (.091)	0.838	0.701-1.003
Guardianship									
Received Crime Prevention Information	0.164 (.061)	1.178*	1.044-1.329	0.159 (.053)	1.172	1.056-1.302	0.081 (.205)	1.084	0.724-1.623
-2 Log Likelihood	-8397.7372			-6746.9873			-1238.8702		
(Wald) Chi-Squared	1344.25*			1641.88*			317.37*		
Pseudo R2	0.0850			0.1076			0.0895		

*p<0.01

Table 5.11: Multivariate Binary Logistic Regression Results for Rape for the Total Sample, Female-only, and Male-only Subsamples

Variables	<u>Total</u>			<u>Female</u>			<u>Male</u>		
	B (S.E.)	OR	CI (95%)	B (S.E.)	OR	CI (95%)	B (S.E.)	OR	CI (95%)
<u>Lifestyle-Routine Activities Variables</u>									
Proximity									
Housing	.099 (.063)	1.104	0.975-1.251	0.077 (.062)	1.080	0.953-1.224	0.184 (.193)	1.202	0.822-1.758
Exposure									
Binge Drinking	0.198 (.056)	1.219*	1.090-1.362	0.158 (.061)	1.172*	1.038-1.323	0.380 (.204)	1.463	0.980-2.184
Alcohol Use	-0.045 (.116)	0.955	0.760-1.200	-0.006 (.119)	0.993	0.786-1.254	-0.544 (.307)	0.580	0.317-1.060
Marijuana Use	0.085 (.061)	1.088	0.964-1.229	0.079 (.074)	1.082	0.934-1.253	0.036 (.163)	1.037	0.753-1.427
Serious Drug Use	0.551 (.120)	1.736*	1.372-2.196	0.430 (.127)	1.537*	1.197-1.973	0.928 (.243)	2.531*	1.569-4.080
Number of Sexual Partners	0.727 (.032)	2.070*	1.940-2.208	0.855 (.040)	2.351*	2.173-2.544	0.427 (.049)	1.533*	1.391-1.689
Athletic Participation	0.111 (.054)	1.117	1.005-1.242	0.124 (.060)	1.132	1.006-1.273	0.169 (.133)	1.184	0.911-1.538
Fraternity/Sorority Member	0.049 (.069)	1.050	0.917-1.203	0.043 (.081)	1.044	0.890-1.226	0.141 (.217)	1.151	0.752-1.764
Volunteer	0.247 (.050)	1.280*	1.158-1.414	0.257 (.055)	1.293*	1.161-1.441	0.145 (.148)	1.156	0.865-1.546
Employed	0.045 (.057)	1.046	0.935-1.171	0.029 (.058)	1.030	0.918-1.155	0.117 (.144)	1.125	0.847-1.494
Target Attractiveness									
Relationship Status	-0.297 (.051)	0.742*	0.671-0.820	-0.316 (.054)	0.728*	0.655-0.810	-0.110 (.142)	0.895	0.677-1.182
Risk-Avoidance Behaviors	-0.124 (.034)	0.883	0.824-0.945	-0.104 (.033)	0.901*	0.844-0.961	-0.200 (.087)	0.818	0.689-0.971
Guardianship									
Received Crime Prevention Information	0.145 (.059)	1.156	1.028-1.300	0.147 (.053)	1.159*	1.043-1.288	0.099 (.216)	1.104	0.722-1.687
<u>Target Congruence Variables</u>									
Target Vulnerability									
Physical Stature									
Healthy Weight (reference)									
Underweight	0.001 (.110)	1.001	0.806-1.242	0.021 (.123)	1.021	0.801-1.301	-0.229 (.437)	0.795	0.337-1.873
Overweight	-0.089 (.066)	0.914	0.803-1.041	-0.084 (.072)	0.919	0.797-1.059	-0.053 (.156)	0.947	0.697-1.287
Obese	-0.038 (.093)	0.962	0.801-1.155	-0.033 (.103)	0.967	0.790-1.183	-0.026 (.241)	0.973	0.606-1.563
Psychological Distress	1.488 (.090)	4.431*	3.714-5.286	1.667 (.107)	5.300*	4.297-6.539	0.522 (.233)	1.686	1.067-2.662
Eating Disorder	0.436 (.091)	1.547*	1.291-1.852	0.342 (.094)	1.407*	1.170-1.693	1.155 (.365)	3.177*	1.550-6.509
GPA									
A (reference)									
B	0.037 (.047)	1.037	0.946-1.138	0.013 (.048)	1.013	0.921-1.114	0.174 (.157)	1.191	0.874-1.621
C	0.067 (.079)	1.069	0.915-1.248	0.043 (.087)	1.044	0.879-1.241	0.219 (.202)	1.245	0.837-1.825
D/F	0.262 (.220)	1.300	0.844-2.003	0.207 (.256)	1.230	0.744-2.034	0.644 (.511)	1.904	0.698-5.188
N/A	0.431 (.180)	1.539	1.081-2.191	0.295 (.183)	1.344	0.938-1.926	1.148 (.381)	3.152*	1.491-6.663
Physical Limitations	0.195 (.118)	1.215	0.963-1.533	0.019 (.121)	1.019	0.802-1.295	0.719 (.256)	2.054*	1.242-3.397

*p<.01

Table 5.11 Continued: Multivariate Binary Logistic Regression Results for Rape for the Total Sample, Female-only, and Male-only Subsamples

Variables	<u>Total</u>			<u>Female</u>			<u>Male</u>		
	B (S.E.)	OR	CI(95%)	B (S.E.)	OR	CI(95%)	B (S.E.)	OR	CI(95%)
Year in School									
Freshman (reference)									
Sophomore	-0.101 (.073)	0.903	0.782-1.044	-0.111 (.079)	0.894	0.766-1.044	-0.046 (.196)	0.954	0.650-1.401
Junior	-0.218 (.080)	0.804*	0.686-0.941	-0.286 (.085)	0.751*	0.635-0.887	0.241 (.203)	1.273	0.855-1.896
Senior	-0.290 (.090)	0.747*	0.626-0.893	-0.376 (.103)	0.686*	0.560-0.840	0.283 (.261)	1.327	0.795-2.217
+4 Years	-0.503 (.152)	0.604*	0.448-0.815	-0.521 (.163)	0.593*	0.430-0.818	-0.217 (.409)	0.804	0.360-1.795
Target Gratifiability									
Sex	-1.509 (.090)	0.221*	0.185-0.263						
Target Antagonism									
Sexual Orientation									
Heterosexual (reference)									
Gay/Lesbian	0.263 (.148)	1.301	0.973-1.740	-0.260 (.213)	0.770	0.506-1.171	1.238 (.210)	3.451*	2.282-5.218
Bisexual	0.328 (.092)	1.388*	1.158-1.664	0.200 (.102)	1.221	0.999-1.493	1.300 (.233)	3.670*	2.323-5.798
Unsure	0.434 (.132)	1.544*	1.191-2.003	0.300 (.140)	1.350	1.024-1.780	1.270 (.325)	3.561*	1.881-6.739
Race	-0.102 (.058)	0.902	0.804-1.011	-0.062 (.060)	0.939	0.833-1.058	-0.497 (.169)	0.608*	0.436-0.847
International Student Status	-0.012 (.102)	0.987	0.808-1.207	-0.035 (.111)	0.965	0.776-1.200	0.014 (.249)	1.014	0.622-1.654
Controls									
Pub/Priv	-0.053 (.061)	0.947	0.839-1.070	-0.030 (.060)	0.969	0.847-1.109	-0.164 (.172)	0.848	0.605-1.188
Survey Type	-0.008 (.120)	0.991	0.783-1.254	0.030 (.120)	1.030	0.813-1.305	-0.271 (.241)	0.762	0.474-1.224
-2 Log Likelihood	-7774.009			-6523.4878			-1170.9173		
(Wald) Chi-Squared	3156.30*			2725.77*			656.65*		
Pseudo R2	0.1529			0.1371			0.1394		
Block 1	1344.25 *			1641.88 *			317.37 *		
Block 2	1080.58 *			387.45 *			202.75 *		

*p<0.01

more likely to be the victim of rape (again, to be regarded with caution, see above). Eating disorders and bisexual and unsure sexual orientation were the third and fourth strongest predictors among the target congruence measures. Individuals who reported having eating disorders were 1.54 times more likely to be victimized, while individuals who reported they were bisexual or unsure of their sexual orientation were 1.38 and 1.54 times—respectively—more likely to be raped compared to heterosexuals.

Overall, the total sample full model for rape was significant. Furthermore, the addition of the target congruence measures significantly improved prediction above and beyond just using the lifestyle-routine activities variables, the partial model. These results will be discussed more in Chapter 6.

When examining the female-only subsample roughly half of the lifestyle-routine activities measures were significant predictors of risk or rape in both the partial and full models (Table 5.10 and Table 5.11). For lifestyle-routine activities alcohol use, binge drinking, marijuana use, athletic participation, sorority membership, and employment were non-significant in the partial model (Table 5.10), while housing, alcohol use, marijuana use, athletic participation, sorority membership, and employment were non-significant in the full model (Table 5.11). Serious drug use and number of sexual partners reported the strongest effects among the lifestyles-routine activities variables; serious drug use increased the risk of rape victimization among females 1.53 times in the full model, while number of sexual partners increased risk 2.35 times. Conversely, receiving crime prevention information was significant in the opposite direction than was originally hypothesized. For example, it was originally hypothesized that receiving crime prevention information would reduce one's risk of rape because it would increase one's personal accountability and guardianship, but rape and receiving

crime prevention information reported a positive significant relationship. It is necessary to point out that risk-avoidance behaviors, discussed in Table 5.10 and 5.11 may be the result of a victimization. Given the cross-sectional nature of the data it is impossible to know whether the victimization or risk-avoidance behaviors came first. Thus, these results should be regarded with caution, which will be discussed further in Chapter 6. As Table 5.10 indicates the partial model was significant in predicting risk of rape for the female-only subsample.

Like the total sample, the target congruence variables for the female sample showed mixed results (RQ1; Hyp1). The prevalence estimates for the female-only subsample can be found in Appendix Q. First, when examining the target vulnerability (RQ2) factors of psychological distress and eating disorders, they both reported a positive significant relationship with risk of rape even when controlling for the lifestyle-routine activities measures (Hyp2A). For example, those who reported having an eating disorder were 1.4 times more likely to be the raped than those who did not report having an eating disorder. Conversely, the categories of GPA reported no significance when compared to the reference category of 'A' GPA, which is counter to the original hypothesis (Hyp2A). However, it is very important to note that psychological distress, eating disorders, and GPA all may be consequences of rape victimization. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated measures were consequences of the victimization or if they were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*). This particular limitation should be addressed in future research, which is discussed further below.

Like the bivariate results, physical stature did not behave the way it was originally predicted (Hyp2B). In comparison, and as originally predicted, individuals who were juniors,

seniors, and 4+ years in school were significantly less likely to be victimized than freshman; but sophomores were not at a significantly greater risk than freshman (Hyp2C). For example, individuals in college for 4+ years were 41% less likely to be the victim of rape than their freshman counterparts. Finally, physical limitations did not report a significant relationship with rape for the female-only subsample, which is counter to the original hypothesis (Hyp2D).

Next, all of the measures of target antagonism (RQ3) were non-significant, which is counter to the original hypotheses (Hyp3A, Hyp3B, Hyp3C). As with the bivariate results, international student status and race were not significant (Hyp3A; Hyp3B). In comparison, the measures of sexual orientation, which were significant in other models and in the bivariate results were no longer significant in this model (Hyp3C).

Overall, the full model of the female-only subsample for rape victimization was significant. Furthermore, the addition of the target congruence measures significantly improved prediction above and beyond just using the lifestyle-routine activities variables, as shown in the partial model. Psychological distress, number of sexual partners, eating disorders, and serious drug use appear to have the strongest effect on risk of rape victimization for females. However, the results for psychological distress and eating disorders should be regarded with some caution given the cross-sectional nature of the data. These results and limitations will be discussed further in Chapter 6.

In comparison to the female-only model, the male-only subsample shown in Table 5.10 and Table 5.11 reported several significant differences between hypothesized predictions and the results for both lifestyle-routine activities and target congruence measures. Only two of the lifestyle-routine activities measures were significant: number of sexual partners and serious drug use. Like the other models, serious drug use appears to be one of the strongest predictors of risk

of rape for males among the lifestyle-routine activities measures in both the partial and full models (Table 5.10 and Table 5.11). Males who reported greater rates of serious drug use are 2.53 times more likely to be the victim of rape compared to those who report lower/ no rates of serious drug use, shown in the full model.

The target congruence variables for the male-only subsample showed mixed results (RQ1; Hyp1). First, when examining the target vulnerability (RQ2) only eating disorders (Hhyp2A) reported a positive significant relationship with risk of rape even when controlling for the lifestyle-routine activities measures (Hyp2A). For example, males who reported having an eating disorder were 3.17 times more likely to be the victim of rape those who did not report having an eating disorder. However, given the large confidence intervals these results should be regarded with some caution. Appendix R provides the prevalence estimates for males, which may be helpful in interpreting these results and exemplifying the low base-rates. Conversely, the measure for psychological distress was not significant, this is the first and only time this measure has not be significant across any of the models and/or sample types. Finally, GPA only reported a positive significant difference between males who responded that they had a 'N/A' GPA compared to males who reported they received an 'A' GPA. All of the other categories reported no significance when compared to the reference category of 'A' GPA, which is counter to the original hypothesis (Hyp2A; results should be regarded with caution as indicated by the large CI and readers should address Appendix R). However, it is very important to note that psychological distress, eating disorders, and GPA all may be consequences of rape. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated measures were consequences of the victimization or if they were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*).

This particular limitation should be addressed in future research, which is discussed further below. Again, like the bivariate results physical stature did not behave the way it was originally predicted (Hyp2B). Furthermore, year in school (Hyp2C) was not significant; however, physical limitations (Hyp2D) was a significant predictor of risk of rape for males. Males who had one or more physical limitations were 2.05 times more likely to be the victim of rape than males who did not report having any physical limitations.

Next, the measures of target antagonism also reported mixed results for males (RQ3). As with the bivariate results, international student status was not significant (Hyp3A). Race reported a negative significance, meaning that nonwhite males were 40% more likely to be the victim of rape than white males, which is consistent with the original hypothesis (Hyp3B). Finally, sexual orientation (Hyp3C) remained significant even while controlling for the lifestyle-routine activities measures in their originally hypothesized direction. For example, males who reported being bisexual were 3.67 times more likely to be the victim of rape than their heterosexual counterparts.

Overall, the full model of the male-only subsample for rape was significant. Furthermore, the addition of the target congruence measures significantly improved prediction above and beyond just using the lifestyle-routine activities variables, as shown in the partial model. All of the measures of sexual orientation and eating disorders appear to have the strongest effect on risk of victimization for males. However, the results for eating disorders should be regarded with some caution given the cross-sectional nature of the data. These results and limitations will be discussed further in Chapter 6.

Table 5.12 provides the results from the equality of coefficients test to examine if there is a significant difference between females and males among the predictors rape for the target

congruence measures. As stated at the beginning of the chapter in order to understand and interpret the results more carefully readers should reference Paternoster et al. (1998). For ease in interpretation it should be noted that females were reported first in the equation; this matters in interpreting the results because the positive or negative nature of the coefficient for both males and females will change the positive or negative nature of the Z-Score. This positive or negative

Table 5.12: Equality of Coefficients Results for Rape Victimization Risk Between Females and Males

Target Congruence Variables	Z-Score
Target Vulnerability	
Physical Stature	
Underweight	0.558
Overweight	-0.180
Obese	-0.026
Psychological Distress	4.465*†
Eating Disorder	-2.157
GPA	
B	-0.980
C	-0.800
D/F	-0.764
N/A	-2.018
Physical Limitations	-2.472*
Year in School	
Sophomore	-0.307
Junior	-2.394*†
Senior	-2.348*†
+4 Years	-0.690
Target Antagonism	
Sexual Orientation	
Gay/Lesbian	-5.008*
Bisexual	-4.324*
Unsure	-2.741*
Race	2.425*
International Student	
Status	-0.179

*p<0.01

†Female pronounced effect

sign is only helpful in indicating which subsample the target congruence measure has a more profound effect on. Thus, an indicator has been added to explain whether females or males are exhibiting the effect for measures that are significant to help aid the reader in their interpretation. Several of the target congruence measures were significantly different between males and females. For example, as indicated in Table 5.11, both males and females who reported having eating disorders were at significantly greater risk of rape. However, after conducting an equality of coefficients test, the effect of eating disorders on risk of victimization is more pronounced among males than females. Males also had a more pronounced effect across all the categories of sexual orientation, race, and physical limitations. In comparison females reported a more pronounced effect across psychological distress and junior and senior year in school.

Overall, there appears to be mixed support for lifestyle-routine activities and target congruence measures in predicting risk of rape victimization. First, lifestyles-routine activities measures provided some of the strongest predictors of rape victimization for the total sample and female-only subsample. For example, serious drug use and number of sexual partners were the two of the strongest predictors in both models behind psychological distress, but given the cross-sectional nature of the data there may be some issues in interpretation regarding psychological distress. However, when looking at the subsamples of females and males, it appears as though lifestyle-routine activities measures are better predictors for risk of victimization for females rather than males. Males only reported two significant predictors among the lifestyle-routine activities measures and it appears as though the target congruence measures were better predictors of risk of rape victimization for males overall. When looking at target congruence measures for all the models, sex also appears to be a strong predictor of risk of rape victimization in the total sample.

When comparing males to females for risk of rape victimization it is clear that there are different factors contributing to the risk for each sex. Again, lifestyle-routine activities measures have several more significant predictors for females compared to males. Likewise, risk varies across the target congruence measures as well. For example, when examining the target congruence measures it appears as though sexual orientation is one of the strongest risk factors of rape victimization for males, yet none of the sexual orientation measures were significant for females. Conversely, year in school appears to have a greater impact on females than males. This information may be helpful in not only understanding risk of rape victimization, but also in creating and guiding effective prevention and intervention efforts (see Chapter 6).

SUMMARY

Overall, there appears to be mixed, but mostly strong support to include target congruence measures among those used to examine sexual victimization among college students. While certain measures, such as international student status and physical stature did not prove helpful in examining or understanding risk of sexual victimization, measures such as sexual orientation and psychological distress were some of the strongest predictors in certain models, even when accounting for lifestyle-routine activities measures. As each of the models show (and as discussed in Chapter 2), the importance of lifestyle-routine activities measures cannot be overstated. However, by adding certain individual characteristics to the models a more thorough understanding of sexual victimization begins to emerge. Furthermore, the addition of the target congruence characteristics significantly improved the predictive power of every model.

Furthermore, when breaking the total sample down into subsamples, similarities and differences between sexes occurred, which can have profound policy implications on targeted intervention and prevention strategies, helping broaden our understanding of risk of sexual

victimization between sexes. Specifically, it appears as though males may benefit most from the addition of target congruence measures to studies concerning sexual victimization. These theoretical implications, substantive contributions, and limitations of this study will be discussed in the next chapter.

CHAPTER 6

DISCUSSION

This chapter summarizes the results from the bivariate and multivariate models presented in Chapter 5 as well as the equality of coefficients tests. The results for both the lifestyle-routine activities measures and the target congruence measures will be discussed and compared followed by an examination of the theoretical, prevention, and intervention implications. Next, a discussion of the limitations and aims for future research will be discussed. Last, concluding remarks on this research project are presented.

SUMMARY OF RESULTS

Below is a brief summary of the bivariate results for the target congruence measures. First, results, which were consistent with past research and the predicted hypotheses, will be discussed, followed by the measures that received mixed results, and finally those that were inconsistent with both past research and predictions will be examined. Last, a brief discussion of the implications of these results is given with more in-depth discussion following in this chapter.

Bivariate Results

When examining the bivariate results across all three types of sexual victimization several findings stand out. First, psychological distress, eating disorders, physical limitations (with the exception of female rape victims), and bisexual and unsure sexual orientation were significant predictors of the three types of sexual victimization for all three samples, as originally hypothesized (Hyp2A, Hyp2D, Hyp3C). Likewise, sex was also consistently significant across the three types of sexual victimization as originally hypothesized (Hyp4), meaning that females were significantly more likely than males to be sexually victimized. In comparison, year in school, GPA, and race vary in their significance given the type of victimization being examined

as well as the sample. Finally, international student status and physical stature had either non-significant or significant findings in the opposite direction than they were originally hypothesized across all three samples and victimization-type.

The results for psychological distress, eating disorders, GPA, physical limitations, and sexual orientation as significant predictors of sexual victimization are consistent with past research (see Table 3.1); however, there are a few exceptions. Not consistent with past research and a rather interesting finding, is that female lesbians do not appear to have an increased risk of sexual victimization compared to their heterosexual counterparts across any of the types of sexual victimization (Table 5.1-5.3). In comparison, gay males were at significantly greater risk of sexual victimization when compared to their heterosexual counterparts across all three types of victimization (Table 5.1-5.3). Despite hypothesizing that males and females would be equally likely to be vulnerable to sexual victimization based on target congruence characteristics (Hyp5) it is clear that this is not the case for gay/lesbian sexual orientation in the bivariate results.

Like the sexual orientation results, year in school and race received mixed support. Race probably had one of the most interesting findings; while it was hypothesized that nonwhite individuals would be significantly more likely to be sexually victimized based on past research (Table 2.1) and the theoretical concept of target antagonism (Hyp3B), the predicted relationship was only true for males. In comparison, females had the exact opposite result, with white females being significantly more likely to be the victim of sexual victimization across all three victimization types, which was opposite of the hypothesized expectations (Hyp3B). Because of the negative relationships for females and the positive one for males the total sample showed no significance for all three types of victimization. The importance of these results will be discussed more below as well as the implications for future research.

Year in school appeared to be consistent for predicting female risk of sexual victimization across all three types of victimization. Juniors, seniors, and individuals in school 4+ years were significantly less likely to be sexually victimized when compared to their freshman counterparts; however, sophomores did not report having a significant difference in victimization compared to freshman females. In comparison, males differed drastically from females across the measure for year in school. In the bivariate results for year in school, males across all three types of sexual victimization did not report any significant findings, which is counter to the predicted hypothesis (Hyp2C). Thus, there may be some difference between the role year in school plays for males and females in risk of victimization. This may indicate that males and females might not be equally likely to be vulnerable to sexual victimization based on target congruence characteristics as originally hypothesized (Hyp5). Again, the implications of these results will be discussed more below.

Finally, international student status and physical stature had either non-significant or significant findings in the opposite direction they were originally hypothesized across all three samples and victimization-types. International student status was not a significant predictor of any of the three types of sexual victimization, which was not consistent with the original hypothesis (Hyp3A). In comparison the results for physical stature varied. Males reported no significant relationship between physical stature and victimization risk across any of the three variables. Comparatively, obese females reported having a significantly decreased risk of sexual assault victimization and sexual touch without consent when compared to females who reported having a healthy weight. The overweight and underweight categories did not have any significant effect on risk of sexual victimization for females, and none of the categories were significant compared to healthy weight for rape victimization. When looking at the total sample, being

overweight and obese also reported a significantly decreased risk of sexual victimization across all three variables. These findings may be due to the fact that physical stature may be a better operationalization for a different concept of target congruence or lifestyle-routine activities theory.

These bivariate results are interesting and important in that they highlight how some personal characteristics –target congruence measures—may differentially affect men and women uniquely across different types of sexual victimization. As discussed below, this may impact not only future research, but also prevention and intervention efforts.

Multivariate Results

Like the bivariate results there are mixed findings across all the victimization types and samples. These results not only varied for the target congruence measures, but also for the lifestyle-routine activities measures as well. This dissertation is meant to highlight target congruence, but the importance of lifestyle-routine activities measures in predicting victimization risk cannot be ignored. As Finkelhor and Asdigian (1996) point out, lifestyle-routine activities variables may act as agents that expose or protect victims and thus they are still important in understanding and explaining victimization (pp.6-7). Likewise, as Chapter 2 highlights lifestyle-routine activities measures have had considerable success in predicting risk of sexual victimization. Thus, a short discussion of the lifestyle-routine activities multivariate results will be presented followed by an in-depth discussion of the target congruence multivariate results, and finally a discussion of how both of these theories contribute to understanding sexual victimization will be examined.

Lifestyle-Routine Activities

Below is a discussion of the multivariate results for the lifestyle-routine activities measures that acted as controls for the target congruence variables. First, a discussion of the total sample, then females, and finally males will be presented. A discussion of the significant findings and non-significant findings will be provided. Following this section is the discussion of the target congruence measures, in that section a discussion of how lifestyle-routine activities variables and target congruence variables compare to one another in their ability to predict risk of victimization will also be discussed.

When examining the total sample results (full model) across all three types of sexual victimization several patterns emerge. Consistent with past research (Table 2.2) binge drinking, serious drug use, number of sexual partners, and volunteering are all positive significant predictors across all three types of sexual victimizations, while relationship status was a significant negative predictor across all three types of sexual victimization, which is consistent with past research (Table 2.2). Marijuana use, athletic participation, employment were only significant positive predictors across sexual assault victimization and sexual touch without consent; however, neither was a significant predictor for rape in the total sample. Risk-avoidance behaviors was a negative significant predictor across sexual assault victimization and sexual touch without consent; however, it was not a significant predictor for rape in the total sample. In comparison, housing type was not significant across the three total sample results.

Oddly, receiving crime prevention information reported a positive significant relationship with sexual assault victimization and sexual touch without consent, but not rape in the total sample. This may mean that receiving crime prevention information may not be an appropriate indicator of guardianship and more precise measures, or measures more consistent with past

research would be better used here (see Table 2.2 for past measures used in examining capable guardianship, see also Hollis et al., 2013). Not consistent with past research, were the non-significant findings for alcohol use and fraternity/ sorority membership (see Table 2.2) in the total sample. Alcohol use was meant to examine only casual drinkers (see Chapter 4), which might be why binge drinking was a significant measure but not alcohol use, meaning that only those who binge drink are at an increased risk. Also, not all research has found significant relationships between Greek life and sexual victimization; for example, Fisher et al. (1998) actually found a slight negative, albeit non-significant, relationship between Greek membership and victimization.

When examining the female-only subsample results across all three types of sexual victimization several patterns emerge. Consistent with past research on victimization and lifestyle-routine activities (Table 2.2) binge drinking, serious drug use, number of sexual partners, and volunteering were all positive significant predictors across all three types of sexual victimization, while risk-avoidance behaviors and relationship status were significant negative predictors across all three types of sexual victimization. Marijuana use, athletic participation, alcohol use, and employment were only significant positive predictors across sexual assault victimization and sexual touch without consent; however, none of these three variables were significant predictors of rape, these results are mostly consistent with past research (Table 2.2). As with the total sample, the female-only sample reported no significant relationship with sorority membership or housing type. Furthermore, the female-only subsample also reported a positive significant relationship with receiving crime prevention information. Again, this may indicate possible problems with this operationalization in its ability to correctly capture the concept of guardianship.

While the total sample and the female-only subsample remained largely consistent with past research in regards to lifestyle-routine activities predicating risk of all three types of sexual victimization the results for males were not as straightforward, a majority of the measures were not significant predictors of sexual victimization. For example, of the thirteen different lifestyle-routine activities predictors, only two—serious drug use, number of sexual partners—were consistently significant predictors of sexual victimization across all three types of victimization examined. Serious drug use and number of sexual partners were positive significant predictors. Housing, alcohol use, marijuana use, athletic participation, fraternity membership, employment, relationship status, and receiving crime prevention information were all non-significant predictors of victimization for males across all three types of sexual victimization. Again, this was not anticipated based on past research (Table 2.2). For example, small, medium, large, and nationwide studies have all found a positive, significant relationship between drinking and sexual victimization (Abbey et al., 1996; Banyard et al., 2007; Benson et al., 2007; Combs-Lane & Smith, 2002; Fisher et al., 1999, Gardella et al., 2014; Gidycz et al., 2008; Gross et al., 2006; Hines et al., 2012; Howard et al., 2008; Krebs et al., 2009; Marx et al., 2000; McCauley, Calhoun, & Gidycz, 2010; Messman-Moore et al., 2008; 2013; Minow & Einolf, 2009; Mohler-Kuo, 2004; Reed et al., 2009; Scherer, 2011; Schwartz & Pitts, 1995; Scribner, Mason, Simonsen, Theall, Chotalia, Johnson, Schneider, & DeJong, 2010; Turchik & Hassija, 2014; Ullman et al., 1999). Table 2.2 provides a breakdown of the studies that have examined binge drinking, alcohol consumption, and risk of sexual victimization. Table 2.2 also specifies study size for each of the studies examining drinking. These studies have examined not only sexual assault victimization and rape, but some have even examined the differences between intoxicated—also referred to as incapacitated—rape and forcible rape (Kilpatrick et al., 2009; Koss et al., 1987; Mohler-Kuo,

2007). Furthermore, studies show that there are differences between those who drink alcohol and those who choose to abstain from alcohol completely (Combs-Lane & Smith, 2002; Gross et al., 2006; Krebs et al., 2009). Given the vast amount of research on alcohol consumption and its strong association with sexual victimization, it was not anticipated that alcohol consumption would have a non-significant relationship across all three models. Furthermore, binge drinking and volunteering were only positive significant predictors for sexual assault victimization and sexual touch without consent, but not rape. In comparison, risk-avoidance behaviors was only a negative significant predictor for sexual assault victimization and sexual touch without consent, but not rape.

With so many non-significant findings compared to the total and female-only subsample the reliability of lifestyle-routine activities measures as predictors of sexual victimization for males is questionable. This does raise other questions about the results and whether they may be due to issues in temporal order or model misspecification (see *Limitations* below for more information). Furthermore, most of the studies discussed in Table 2.2 were either total samples or female-only samples, which may point to the fact that males are less likely to be affected by lifestyle-routine activities measures than females. In comparison, studies that only include statistics for total samples may be masking slope differences between males and females. While the focus of this dissertation is on target congruence measures, the importance of this finding will be discussed more in-depth in the theoretical implications section below.

In sum, the overall findings for lifestyle-routine activities theory in examining risk of sexual victimization are interesting in that they highlight there may be differences between male and female risk of victimization and that lifestyle routine-activities concepts may be better suited for predicting risk among females. The importance of lifestyle-routine activities theory,

especially in predicting risk of victimization among females is continually highlighted in the section as well, even when considering target congruence measures.

Target Congruence

Below is a discussion of the multivariate results for the target congruence measures. First, a discussion of the total sample, then females, and finally males will be presented. A discussion of the significant findings and non-significant findings will be provided. At the end of each section a short discussion and comparison of target congruence and lifestyle-routine activities measures ability to predict risk of sexual victimization is provided.

Total Sample

Several patterns among the total sample, across all three types of victimization emerged in the multivariate models. First, eating disorders and psychological distress were both positive significant predictors across all three types of victimization, which is consistent with past research (Table 3.1), the above bivariate results (Tables 5.1-5.3), and the predicted hypothesis (Hyp2A). However, it is very important to note that psychological distress, eating disorders, and GPA (discussed below) all may be consequences of sexual victimization. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated measures were consequences of the victimization or if they were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*, below).

In comparison, sex was a consistently negative significant predictor showing that females are at a much greater risk of sexual victimization than males; this finding is consistent with past research (Table 2.1) and the predicted hypothesis (Hyp4). Sex was also one of the strongest predictors across all three models, which is consistent with past research (Finkelhor & Asdigian, 1996) and useful knowledge in creating intervention and prevention programs. In

comparison, year in school had mixed findings that were consistent across types of victimization. In other words, individuals who were juniors, seniors, and 4+ years in school were significantly less likely to be sexually victimized compared to their freshman counterparts, while sophomores reported no significant difference across all three types of sexual victimization. This finding was consistent with the preliminary bivariate results and consistent with past research, with the exception of the non-significant sophomore finding (Hyp2C; Table 2.1).

Physical limitations, GPA, race, physical stature, and sexual orientation had mixed results among the total sample, across all three types of victimization. Physical limitations only reported significant risk of victimization for sexual assault and sexual touch without consent, but not rape. This is mostly consistent with past research on physical limitations and risk of sexual victimization (Scherer, 2011; Bones, 2013) as well as partially consistent with the predicted hypothesis (Hyp2D). When looking at sexual orientation individuals who reported being gay/lesbian, bisexual, and unsure of their sexual orientation were all at a significantly increased risk of sexual assault and sexual touch without consent when compared to their heterosexual counterparts. In comparison, only those who reported being bisexual and unsure of their sexual orientation were at a significantly increased risk of rape compared to those who reported being heterosexual. These findings are mostly consistent with past research (Table 3.1) and the predicted hypothesis (Hyp3C); as the findings below will show, these results may be due to differences in significance between male-only and female-only subsamples.

Unlike the mostly significant findings for sexual orientation, none of the GPA categories were significant when compared to those who reported a GPA of 'A. The non-significant findings for all categories of GPA across all three types of victimization was not anticipated

given the predicted hypothesis (Hyp2A) and inconsistent with past research (Finkelhor & Asdigian, 1996; Huerta et al., 2006; Scherer, 2011; Jordan et al., 2014; Gardella et al., 2015).

Race was non-significant across all three types of victimization. This finding contradicts the predicted hypothesis (Hy3B), is inconsistent with past research (Table 2.2), as well as inconsistent with the theoretical concept of target antagonism. This non-significant finding—like the non-significant finding for GPA—may be due to differences between the male and female subsample. This result will be discussed in greater detail below and expanded upon in the female-only and male-only subsample sections.

Like race and GPA, physical stature also reported many non-significant findings among the total sample across all three types of victimization. However, there were two significant findings, which were counter to the predicted results (Hy2B); individuals who reported being obese were significantly less likely to be the victims of sexual assault and sexual touch without consent, when compared to individuals who reported being a healthy weight. Again, this may mean that physical stature may be incorrectly operationalized or tapping into the incorrect concept. Finally, international student status continued to have a non-significant relationship with all three types of sexual victimization, which was expected based on the bivariate models, but was counter to the predicted hypothesis (Hyp3A).

When looking at the three multivariate models (Tables 5.5, 5.8, 5.11) and the total samples risk of sexual victimization, it appears as though target congruence measures help add to the overall understanding of sexual victimization even when controlling for lifestyle-routine activities measures. Specifically, the addition of psychological distress, eating disorders, sex, and bisexual and unsure sexual orientation appear to be consistently significant predictors of all three types of sexual victimization.

When comparing lifestyle-routine activities and target congruence to one another in their ability to predict risk of sexual victimization it is clear that they are both contributing to a larger understanding of risk. For example, serious drug use, number of sexual partners, psychological distress, and sex are consistently the strongest predictors of risk across all three types of sexual victimization for the total sample. This means that two lifestyle-routine activities variables and two target congruence variables are the top four predictors in the total sample. Furthermore, depending on the type of victimization, sex may be the third or fourth strongest predictor in the model. These findings highlight how important it is to add target congruence measures to studies of sexual victimization given their ability to predict risk while not completely excluding the important and consistently significant lifestyle-routine activities variables. However, it is very important to note that psychological distress may be a consequence of victimization. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated measures were consequences of the victimization or if they were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*, below). Finally, as the Wald statistics and results show in Tables 5.5, 5.8, and 5.11 show there is a significant improvement in all three models when the target congruence variables are added.

Female-only Subsample

For females, psychological distress and eating disorders were both positive significant predictors of all three types of sexual victimization as originally hypothesized (Hy2A), which is consistent with past research (Table 3.1) and the preliminary bivariate results (Tables 5.1-5.3). However, it is very important to note that psychological distress, eating disorders, and GPA (discussed further below) all may be consequences of sexual victimization. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated

measures were consequences of the victimization or if they were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*, below). In comparison, year in school and sexual orientation had mixed findings that were mostly consistent across types of victimization. In other words, females who were juniors, seniors, and 4+ years in school were significantly less likely to be sexually victimized compared to their freshman counterparts, while sophomores reported no significant difference across all three types of sexual victimization when compared to freshman. This finding was consistent with the preliminary bivariate results and consistent with past research, with the exception of the non-significant sophomore finding (Table 2.1). When examining sexual orientation, lesbians were not at a greater risk of sexual victimization when compared to their heterosexual counterparts, while bisexuals and those who reported they were unsure of their sexual orientation reported significantly greater risk across sexual assault victimization and sexual touch without consent, but not rape. It was originally predicted that all three non-heterosexual categories of sexual orientation would be at increased risk of sexual victimization compared to their heterosexual counterparts (Hy3C); however, this was only true for females who reported being bisexual or unsure of their sexual orientation in two of the models.

In comparison to the above significant findings, several findings for females were not significant for any of the types of victimization, which was originally hypothesized, nor were they consistent with past research and the preliminary bivariate results: physical limitations, GPA, and race were all non-significant across all three types of sexual victimization. Despite previous research on physical limitations (Scherer, 2011; Bones 2013), GPA (Finkelhor & Asdigian, 1996; Huerta et al., 2006; Scherer, 2011; Jordan et al., 2014; Gardella et al., 2015) and race (Table 2.1) there does not appear to be a significant contribution to the risk of sexual

victimization for females in the multivariate models. Given the conflicting results reported here with past research, it is clear more research needs to be conducted to understand the factors that shape risk, discussed below.

Like the above results for the bivariate models and the total sample, physical stature also reported many non-significant findings among the female-only subsample across all three types of victimization. However, there were two significant findings, which were counter to the predicted results (Hyp2B); females who reported being obese were significantly less likely to be the victims of sexual assault and sexual touch without consent, when compared to females who reported being a healthy weight. Again, this may mean that physical stature may be a better operationalization for a different concept of either target congruence or lifestyle-routine activities theories. Finally, international student status continued to have a non-significant relationship with all three types of sexual victimization for females, which was expected based on the bivariate models, but was counter to the predicted hypothesis (Hyp3A).

When looking at the three multivariate models (Tables 5.5, 5.8, 5.11) and female risk of sexual victimization, it appears as though target congruence measures help add to the overall understanding of sexual victimization. Specifically, when target congruence measures and lifestyle-routine activities measures are examined in the multivariate models a clearer picture of the contributing factors to sexual victimization emerge. For example, the strongest predictor across all three types of victimization was psychological distress. However, it is very important to note that psychological distress and associated measures may be consequences of sexual victimization. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated measures were consequences of the victimization or if they were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*;

Chapter 6: *Limitations*, below). Number of sexual partners, a lifestyle-routine activities measure was the second strongest predictor of sexual victimization across all three types of victimization for females while the third strongest predictor across all three models was drug use, another lifestyle-routine activities measure.

In sum, it is clear that while there are some inconsistencies with past research regarding some of the added target congruence measures (eg., physical limitations and physical stature) in the female-only sample there does appear to be a significant benefit in adding some of the target congruence measures to our studies of sexual victimization. As shown in the lifestyle-routine activities section, the importance of lifestyle-routine activities in understanding and predicting risk of sexual victimization among females cannot be overstated, especially considering that those are two of the strongest predictors for females across all three models; however, the target congruence measures still had many significant findings even when controlling for lifestyle-routine activities measures showing that their addition is beneficial to our understanding of female sexual victimization. Finally, the Wald statistics comparing models (Tables 5.5, 5.8, 5.11) show that there is a significant improvement in all three models when target congruence measures are added.

Male-only Subsample

For males, psychological distress, eating disorders, and sexual orientation were all positive significant predictors of all three types of sexual victimization as originally hypothesized (Hyp2A and Hyp3C), which is consistent with past research (Table 3.1) and the preliminary bivariate results (Tables 5.1-5.3). However, there were two exceptions: 1) males who reported they were unsure of their sexual orientation were not significantly more likely to be victims of sexual touch without consent than their heterosexual counterparts (Table 5.8) and; 2) males who

reported higher rates of psychological distress were not at an increased risk of rape compared to those who reported lower rates of psychological distress. Race was also significant across all three types of victimization, which is consistent with the bivariate results, past research (Table 2.1), and the predicted hypothesis (Hyp3B).

Physical limitations and GPA received mixed support in the multivariate male-only models. For example, the only model where physical limitations reported a positive significant relationship was male rape victimization (Hyp2D). GPA had the most confusing and inconsistent results across all three types of victimization. For example, males who reported having a GPA of 'B' were significantly more likely to be the victim of sexual assault and sexual touch without consent than those who reported having an 'A', while only those who reported 'N/A' GPA were at an increased risk of rape victimization when compared to those who reported having an 'A' GPA. However, it is important to note the confidence intervals indicate that these results may be unreliable given the low response rates for victimized men who reported having 'N/A' GPA (Hyp2A; see also Appendix L, O, and R for response rates for the male-only subsamples).

Finally, there was no significant relationship found between physical stature, international student status, year in school, and any of the types of sexual victimization. These findings are consistent with the bivariate results, but not expected based on the original hypotheses (Hy2D, Hy3A, and Hyp2C).

When looking at the three multivariate models (Tables 5.5, 5.8, 5.11) and male risk of sexual victimization, it appears as though target congruence measures help significantly add to the overall understanding of sexual victimization, and may even be better predictors of sexual victimization for males above and beyond lifestyle-routine activities measures. Target congruence measures reported the strongest predictors across all three types of sexual

victimization in the male-only samples. Specifically, males who reported being bisexual—the most powerful predictor among sexual assault and rape—were at the greatest risk of sexual victimization compared to those who reported being heterosexual. Furthermore, the five strongest predictors in the male-only sample for rape victimization were target congruence measures—bisexual, unsure sexual orientation, gay, ‘N/A’ GPA, and those who reported having eating disorders⁷—and finally serious drug use, a lifestyle-routine activity measure, was the sixth strongest predictor. As discussed above, males reported very few significant lifestyle-routine activities measures, especially when compared to females. In addition, these non-significant findings for males were masked in the total sample because of the addition of females which made them appear significant. Finally, the partial models were significantly improved—as indicated in the full models (Tables 5.5, 5.8, 5.11)—when target congruence measures were added.

While it was originally hypothesized there would be some differences in risk of victimization between females and males based on past research (Hyp5) it was not expected—nor the goal of this dissertation—to show how target congruence may be a better predictor of sexual victimization for men, but only how it can add to our understanding of victimization risk. In addition, this dissertation did not anticipate or expect that the lifestyle-routine activities measures would be mostly non-significant, again pointing to the importance of the addition of target congruence measures for males. However, it does appear as though there is a solid argument for the addition of target congruence measures in future research, specifically when examining male risk of victimization. Moreover, given the results for the total sample compared to the female-only and male-only samples, it is clear that the total sample is masking individual

⁷ All of these target congruence measures should be regarded with some caution due to low base-rates. See Appendices J-R for the prevalence estimates.

sex contributions to risk of victimization; thus gendered approaches to sexual victimization research should be considered in future studies, discussed more in-depth below.

Equality of Coefficients

It was originally hypothesized that regardless of sex target congruence measures would be significant (Hy5); however, given the importance of sex (see Chapter 2 and above) in understanding risk of sexual victimization there may be important, or significant, differences between risk of victimization for males and females. Thus, there is a potential for interaction between sex and all of the independent variables. In order to understand and parse out the potential issues caused by an interaction between sex and victimization risk an equality of coefficients test was conducted on each of the target congruence measures to assess whether they may have a more significant impact on females rather than males, or vice versa (see Chapter 4). Below is a summary of the results of the equality of coefficients tests.

As shown in Chapter 5, there are several interesting findings for the equality of coefficients tests for the target congruence measures among all three types of sexual victimization (Tables 5.6, 5.9, and 5.12). However, it should be noted that most of the major differences between risk of victimization for males and females can easily be seen in the multivariate models considering how significance varied between sexes; thus, some of the below results are not surprising. For example, gay men were significantly more likely than female lesbians to be the victim of all three types of sexual victimization according to the equality of coefficients test. This result, again, is not surprising given that females did not report any significance in the multivariate models while males consistently did.

However, there were several findings in the equality of coefficients tests that were not clearly indicated or illustrated by the multivariate models. Across all three types of victimization

females consistently showed that the effect of psychological distress on risk of victimization is more pronounced than that of males. However, it is very important to note that psychological distress may be a consequence of sexual victimization. Given the cross-sectional nature of the data it cannot be determined if the psychological distress and associated measures were consequences of the victimization or if they were risk factors preceding the victimization (see also: Chapter 3: *Psychological Distress*; Chapter 6: *Limitations*, below). Furthermore, females had a more pronounced effect across senior year for rape and sexual assault victimization, as well as junior year for rape victimization.

In comparison males showed a more pronounced effect across all three types of victimization for males who reported they were gay and bisexual compared to their heterosexual counterparts. Race also had a more pronounced effect across males than females across all three types of victimization. Physical limitations reported a more pronounced effect among male rape victims than females, while eating disorders had a more pronounced effect on males who were victims of sexual touch without consent. Finally, males who reported having a 'B' GPA reported a more pronounced effect than females.

Again, most of other findings were not surprising given the significance of the multivariate models. What is interesting is that almost all of the results in the equality of coefficients test tended to favor males being at greater risk than females. For example, looking at Table 5.6 all of the results, with the exception of psychological distress and year in school show the results trending toward male risk of sexual victimization being more pronounced than that of females. Given past research this finding is somewhat perplexing and may be helpful in creating targeted intervention and prevention strategies for different sexes, discussed more below.

THEORETICAL IMPLICATIONS

Based on the bivariate and multivariate results there appears to be some support for the idea that target congruence measures add to our overall understanding of risk of sexual victimization (RQ1; Hyp1). The addition of target congruence measures across every single model significantly improved model fit. Furthermore, as Chapter 3 discussed, there is varying support for target congruence measures outside of the context of college student victimization, as well as when controlling for some of the relevant lifestyle-routine activities variables (see Table 3.1). Several of the original hypotheses were consistently supported across all three types of victimization and sample-type, such as psychological distress (Hyp2A), eating disorders (Hyp2A), sex (total sample; Hyp4), year in school (for females; Hyp2C), race (for males; Hyp3B), and bisexual sexual orientation (Hyp3C). Given the consistent, significant role these measures played net of lifestyle-routine activities variables in predicting risk of sexual victimization across all the samples, it is clear that these factors are important in understanding risk of sexual victimization beyond the party lifestyles and thus should be added to future research on risk of victimization among college students. Additionally, these consistently significant predictors spanned all three concepts of target congruence, again providing support for the theory and several of the original hypotheses.

In addition, the above results support the varying studies discussed in Chapter 3 regarding psychological distress, eating disorders, year in school, race, and sexual orientation. For example, many of the studies discussed in Chapter 3 concerning sexual assault victimization and psychological distress examine post-assault mental health outcomes (Richmond et al., 2009; Zinzow et al., 2011). It is important to point out again that the cross-sectional, retrospective nature of most studies limits the understanding of variables, such as depression and eating

disorders that can be both risk factors and sequelae of sexual victimization (Messman-Moore et al., 2008, p. 1731). However, given the above studies and in conjunction with this dissertation there is strong evidence that psychological distress and sexual assault victimization are closely related. Thus, it is important for future research to parse out the effect of psychological distress and victimization, which can be done by conducting longitudinal studies and analyses in order to further understand what effect target vulnerability may have on an individual's risk of sexual victimization.

Not only was psychological distress consistent with past research, but so were the significant results for eating disorders, year in school, sex, race, and bisexual orientation. As with psychological distress, these measures support past research (discussed in Chapter 3) and these results encourage the use of all of these target congruence variables, across all three concepts of target congruence, in future research. However, results for eating disorder should be regarded with caution—like the psychological distress measures—given cross-sectional, retrospective nature of the data there may be some inconsistencies with whether the disorder or victimization came first.

However, unlike eating disorders and psychological distress, bisexual sexual orientation (Hyp3C), sex (Hyp4), race for the male-only subsample (Hyp3B), and year in school for the female-only subsample (Hyp2C), do not have the same limitations as psychological distress and eating disorders, and provided consistent significant relationships across all three models as was anticipated based on the past research and the predicted hypotheses. For example, beyond the significant results for the bisexual sexual orientation category for males, males and females also had several positive significant findings across all three types of sexual victimization for the non-heterosexual sexual orientation measures. Given the importance of these measures in

understanding certain types of risk, and in conjunction with past research, it is clear that there is merit for including this particularly vulnerable population in future research and in targeted intervention and prevention measures. Furthermore, as the equality of coefficients tests point out, it may be even more beneficial to find ways to target gay, bisexual males, and males unsure of their sexual orientation compared to females in order to aid in prevention and intervention programs. In addition, this dissertation found further support that year in school is an important predictor or risk of sexual victimization especially among female college students. Year in school has consistently been a significant predictor of risk of sexual victimization (Franklin, 2010b; Gross et al., 2006; Krebs et al., 2009; Schwartz & Pitts, 1995). Given this result policy makers and administrators should focus on incoming freshman females for target prevention and intervention programming.

Given all of the above significant findings, and in conjunction with past research (Chapter 2 and Chapter 3) it is critical to include these factors (eg, sex, sexual orientation, and year in school) in future research in order to gain a fuller picture of sexual victimization of college students so that the appropriate intervention and prevention measures can be administered.

However, unlike the above discussed measures, other target congruence measures received mixed results and warrant further research to understand their impact on victimization. Specifically, physical limitations and GPA proved inconsistent. For example, physical limitations was only significant in the full sample for sexual assault victimization and sexual touch without consent, but not rape; there were no significant findings for physical limitations in the female-only subsample; and only rape victimization for males showed a significant effect. Given the way physical limitations change based on the sample further research needs to be done

to understand why the results may change based on the sample make-up. This result was only somewhat consistent with past research. For example, Scherer (2011) found strong, significant support for physical limitations as predictors of sexual victimization. Bones (2013) also found a positive significant effect, as well as a gendered effect, where females with visible physical disabilities were more likely to experience sexual victimization compared to their male counterparts. However, unlike the current study, Bones (2013) was using a sample consisting of youth. In comparison, Scherer (2011) also found that gender may act as a moderator—but for stalking victimization—she found that males with physical limitations and two or more disabilities are at a greater risk of stalking victimization than males with one or less disability, females, and females with one or less disability. Thus, this conflicting evidence does show tentative support for physical limitations being a risk factor among college students; however, the sample make-up may affect how large that risk really may be, and that sex may act as a moderator for physical limitations.

In comparison, changes in GPA as predictors of risk of sexual victimization were not consistent or easily interpretable (see the discussion of the results for males, above). These results are not consistent with past research (Huerta et al., 2006; Scherer, 2011; Gardella et al., 2015) and may also warrant some skepticism given the cross-sectional nature of the data. The bivariate results did show negative significant correlation across all three sample types, for the majority of the subsamples and categories, but these results did not sustain in the multivariate models.

Finally, international student status and physical stature were not significant or significant in the opposite direction than was anticipated. Given this finding, physical stature may be

incorrectly operationalized, or better suited to represent a different concept. However, the research on both of these measures was minimal prior to this dissertation. For example, as discussed in Chapter 3, almost all of the research on international student status as a predictor of sexual victimization was based on US students studying abroad, and not on students studying in the US, thus more research should be conducted to confirm the non-significant findings reported here.

While some of the above results not only show the importance of target congruence and how its addition can improve our overall understanding of victimization, another mostly unanticipated finding emerged. While the goal of this dissertation was not to focus on lifestyle-routine activities theory one interesting finding regarding lifestyle-routine activities theory did develop; lifestyle-routine activities theory appears to be a much more powerful predictive tool for females than it is for males. Across all three types of victimization mostly non-significant findings were reported for males, while in comparison females showed mostly strong significant predictors for lifestyle-routine activities measures. Additionally, target congruence measures had the strongest predictors across all three types of victimization for males. Based on these findings it appears as though males benefit greatly from the addition of target congruence measures to studies of sexual victimization, which can help greatly shape policy. These results were mimicked and strengthened by the equality of coefficients tests for each of the different types of sexual victimization.

Moreover, when examining the total sample the results for each of the different genders were masked and these conclusions could not have been appropriately drawn; thus, there also appears to be a need for gendered research on risk of sexual victimization and how lifestyle-routine activities measures, as well as target congruence measures may differentially impact risk.

Research on a gendered approach to both lifestyles-routine activities and target congruence has only just emerged and warrants further investigation, given the current research (Tillyer et al., 2010; Popp & Peguero, 2011; Reyns et al., 2016; Wilcox et al., 2009; Hines et al., 2012; Banyard et al., 2007; Scherer, 2011; Bones 2013; Menning & Holtzman, 2013). Physical limitations provides a good illustration of this point, it appears as though females who have physical limitations are not at significantly greater risk of sexual victimization, thus when creating policies we may not need to focus on females with physical limitations, but possibly only males. Taking all of the above findings into account it is clear that research needs to move beyond the party lifestyles when examining sexual victimization among college students. Furthermore, these results are interesting in that they show some characteristics may differentially affect men and women uniquely in their risk for different types of victimization.

PREVENTION AND POLICY IMPLICATIONS

Given the above findings several prevention and intervention measures as well policy implications can and should be made. This section will briefly discuss what universities can and should do to help address and reduce sexual victimization on their campuses based on the above results.

As the full model shows, sex is one of the strongest predictors of risk of sexual victimization, meaning that females are at an increased risk of sexual victimization compared to males across all three types of victimization. When examining the female-only subsamples it is clear that programming and services related to drinking and drug use should be strongly targeting females across college campuses. While many universities do have plenty of programs offered, available, and willing to help students concerning self-protection and drug and alcohol reduction strategies only a small proportion of students actually use them or are even aware they exist

(Barberet, Fisher, & Taylor, 2004). Given this reality, it is important to find ways to create awareness of these programs for students, advocates, professors, administrators, and residence life coordinators (eg., hall directors, resident advisors). Mustaine and Tewksbury (2013) recommend increasing awareness of risk of victimization stating that if students believe that are at an increased risk they may be more likely to utilize programs available on college campuses (p.176). Thus, going further, increasing knowledge of risk not only to females but also females who are freshman, bisexual and unsure of their sexual orientation, who go out drinking more often, who suffer from eating disorders, and psychological distress may be beneficial in reducing risk. Targeting these individuals for information dissemination, and prevention and education programs would require that individuals at all levels of the university work together to make sure the information is given out, increasing awareness of the programming options that are available. For example, alerting psychological services, students during orientation, and residence life officials that individuals who exhibit signs of psychological distress (eg., exhaustion without activity, overwhelming feelings of sadness etc.) may be at an increased risk of sexual victimization can help roommates, residence advisors, and professors offer advice to students who exhibit these signs about where to go and what to do. Likewise, if psychological services on campuses are aware of the increased risk of victimization they can help students learn more information about their risk and self-protection while helping them with their mental health.

This same programming strategy is also beneficial for males. While males are at a decreased risk of sexual victimization compared to females, it is still important to target males who are at the greatest risk of victimization; specifically non-heterosexual males. One way to disseminate knowledge of risk is through LGBTQ clubs on campuses. More and more universities have offices of Title IX and Clery compliance following the USDOE report on the

failure of universities to properly report sexual victimization (see Chapter 1). These officials can go to clubs and discuss what programming options are available and how to decrease risk of victimization. Again, these officials can reinforce the fact that non-heterosexual males are at an increased risk—the greatest risk—of several types of sexual victimization. This may encourage these individuals to seek out programming on self-protection and how to avoid risk of victimization.

Furthermore, as all of the models show risk-avoidance behaviors, net of all other factors, have a significant negative impact on risk of sexual victimization. Thus, advocating that students use risk-avoidance behaviors (eg., avoiding drinking games, eating before or during drinking, and keeping track of drinks etc.) when drinking can also help reduce risk for both males and females. The information on risk avoidance behaviors may be invaluable because it can allow officials to slowly change the culture of campus drinking, thus reducing risk of victimization, without administrators imposing unrealistic policies. For example, instead of administrators advocating for abstinence from alcohol and dry campuses, they may start by campaigning that students avoid drinking games or imposing harsher penalties for those caught playing drinking games; hopefully, helping reduce risk of victimization. Examining each of the factors included in the risk-avoidance behaviors may prove useful in creating beneficial policies on campuses and warrants further research.

LIMITATIONS

Although based on a large sample size across 129 institutions this study is not without its limitations. Chapter 4 notes some of the issues in external validity that will be discussed here; likewise, several other limitations will be discussed. First, given the cross-sectional, retrospective nature of the data, temporal order between variables cannot be determined (Shadish, Cook, &

Campbell, 2002, p. 55). This is particularly important when examining the target congruence variables associated with psychological distress—such as eating disorders and GPA—as these variables may have a reciprocal impact on one another. For example, Finkelhor and Asdigian (1996) point out that psychological distress may be the cause of victimization; however, it may also be the effect of victimization (p.16). Again, this limitation was repeatedly discussed throughout the chapters and cannot be dismissed. Given this limitation future research must address issues in temporal order.

A second limitation is the time frame of the dependent variables. The time frame for victimization across the three dependent variables is 12 months. Given that students are being asked if they have been victimized in the last year there is no guarantee that the victimization occurred on campus or even while the student was at school. For example, the victimization may have taken place the summer before, or during the last year of high school for college freshman in the sample. In order to address this particular limitation supplemental analysis was completed examining sub-samples of only sophomores, juniors, seniors, and students who were in school 4+ years, as well as a combination of those years and across the total sample, female-only, and male only-subsample. The supplemental analysis did not show any change in the significance of risk predictors across any of the three dependent variables, across any of the multiple subsamples.⁸ However, this still does not discount the fact that for upper-classmen the victimization may still have occurred over the summer, while on study abroad, or elsewhere.

Another limitation based on time-frame is that the reference time is different across several measures. For example, the measure of binge drinking has a reference period of two-weeks, while all of the dependent variables have a reference period of one year. Thus, there is an

⁸ Supplemental analysis available upon request to the author.

assumption that behaviors remain consistent over a one-year period. For more on the reference period of particular measures please see Chapter 4 or Appendix B.

Another potential limitation is that the dataset does not include incident-level characteristics (e.g. area where event took place, if alcohol or drug was involved, was the victim carrying a weapon etc.), which may be valuable to understanding victimization risk. On a similar note, past sexual victimization experiences were not included as either a potential control measure or a potential target congruence measure. As Table 2.2 highlights, research indicates a strong link between past victimization and future re-victimization. Information about past victimization might prove helpful in not only predicting victimization, but also help expound upon Finkelhor and Asdigian's (1996) original concept of target congruence. As Fisher et al. (1999) point out that past victimization may increase target vulnerability in cases of stalking, they explain:

Such congruence may be exacerbated by a victim's target vulnerability—a situation in which a personal characteristic 'may compromise the potential victim's capacity to resist or deter victimization'... In this context prior victimization may increase a woman's vulnerability in relationships with men and decrease her capacity to deter men with propensities to engage in stalking behaviors (p. 197).

The same idea may be applied to those who have been victims of other types of sexual victimization, again making them more vulnerable targets.

As noted in Chapter 4 two control measures were introduced in order to account for institution type—public or private—as well as survey format—web-based or paper-based. Given the variation in response rates for the survey format it was important that it was added as a control measure (see Chapter 4). The type of institution was not significant in any of the models, indicating that there is no difference in risk based on institution type in this study nor was mode of survey administration significant in any of the models.

FUTURE RESEARCH

Despite the limitations presented above these results show that research needs to move beyond the lifestyle-routine activities concepts and add personal characteristics—target congruence measures—in order to create a better understanding of risk of sexual victimization. Specifically, understanding the differences between males and females and how lifestyle-routine activities and target congruence measures contribute to the risk of sexual victimization for each sex. It may also be important to add transgendered individuals to future research. Unfortunately, given the low response rate of transgendered individuals in this study they could not be added. However, future research may want to address how sex—beyond male and female—may differently affect risk of victimization.

Future research should also address temporal order. This is particularly important when examining the target congruence variables associated with psychological distress as these variables may have a reciprocal impact on one another. In other words, which came first the psychological distress or the sexual victimization. This can help intervention and prevention measures appropriately target those that are at an increased risk. Likewise, research needs to have the added factor of past victimization, again either as a control measure or part of the target congruence model concerning victimization. The addition of past victimization can also help parse out factors that affect victimization of college students.

As stated above, more research regarding risk avoidance behaviors and what works best at reducing sexual victimization may be useful in creating realistic policies regarding drinking habits and behaviors. Again, this may help slowly change the culture of drinking on college campuses, reducing overall risk for all students. GPA, physical limitations, and year in school (for males) also warrant future studies given their inconsistency in the models and with past

research. As discussed above, physical limitations was only significant in the full sample for sexual assault victimization and sexual touch without consent, but not rape; there were no significant findings for physical limitations in the female-only sample; and only rape victimization for males showed a significant effect. Given the way physical limitations, GPA, and year in school (for males) change based on the sample further research needs to be done to understand why the results may change based on the sample make-up.

CONTRIBUTIONS AND CONCLUSION

There are several contributions this study makes to the field of victimology. First, this study adds to the current research concerning target vulnerability. As discussed throughout Chapter 4 only one study has addressed target vulnerability, while controlling for lifestyle-routine activities variables among college students (see also Scherer, 2011). Moreover, this study fills the gaps in the research by using several measures of psychological distress—including GPA and eating disorders as proxy measures—moving beyond self-reported mental-health diagnoses. It is clear based on the above study that there is some reliability to the idea psychological distress, GPA, and eating disorders are helpful to understanding risk of sexual victimization beyond diagnosed mental health disorders. Likewise, this study also adds to the work done on physical limitations and sexual victimization. While there is some consistency with past research, there are also inconsistencies showing that more work needs to be done in this important area of research.

Second, physical stature as a measure for target vulnerability was also examined. Given the lack of research in this area, it was important to understand if or how physical stature contributes to victimization. Specifically, understating whether being physically small or large—according to BMI—has an impact on risk of sexual victimization. While BMI had mostly non-

significant findings, there were a few significant, albeit incorrectly hypothesized, findings. Given these findings BMI may be better suited as an operationalization for a different concept.

Third, this study also fills the gaps in the literature concerning risk of sexual victimization vis-à-vis sexual orientation. It is clear that there is a difference in risk of victimization based on sex and sexual orientation, above and beyond a simple heterosexual, non-heterosexual dichotomy. Given this finding policies can target specific groups, disseminate information, and specifically examine what puts gay, bisexual, and individuals unsure of their sexual orientation at such an increased risk compared to their heterosexual counterparts in order to reduce victimization.

Fourth, there was no published research on immigrant status and sexual victimization among college students. This study found that there does not appear to be a link between risk of sexual victimization and international student status. This is helpful, in so far as it allows policy makers to put their efforts towards other programming, which may reduce risk instead of incorrectly and inappropriately targeting international students for prevention and intervention measures.

Last, an unanticipated contribution of this study is that it highlighted the need for more gender-differentiated research on sexual victimization. While it was originally hypothesized that there may be differences between male and female risk of victimization—or interaction effects—when examining target congruence measures, this was not anticipated for the lifestyle-routine activities measures, nor was it predicted that males would have a more pronounced impact by the target congruence measures. Thus, it appears as though lifestyle-routine activities measures may be more important to understanding risk of sexual victimization for females rather than males, while males benefit greatly from the addition of target congruence measures. Furthermore, the

findings in this study highlight the necessity of creating gendered research and policies in order to appropriately prevent sexual victimization for each sex.

Given the past and above research on lifestyle-routine activities theory it is clear that there is a strong link between party lifestyles and risk of sexual victimization. However, research needs to move beyond the party lifestyle and begin to understand other factors, which may increase risk of sexual victimization. By understanding risk better universities can begin to create more beneficial and useful policies to decrease risk. The above research shows that there is a necessary and basic need for target congruence measures to be added to studies regarding sexual victimization among college students, as well as taking these factors into consideration when creating policy and intervention measures at universities.

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APPENDIX A
Survey Instrument



Instructions:

The following questions ask about various aspects of your health.

To answer the questions, fill in the oval that corresponds to your response.

Select only one response unless instructed otherwise.

Use a No. 2 pencil or blue or black ink pen only. Do not use pens with ink that soaks through the paper. CORRECT: ● INCORRECT: ○

This survey is completely voluntary. You may choose not to participate or not to answer any specific question. You may skip any question you are not comfortable in answering.

Please make no marks of any kind on the survey which could identify you individually.

Composite data will then be shared with your campus for use in health promotion activities.

Thank you for taking the time and
thought to complete this survey.
We appreciate your participation!



American College Health Association

National College Health Assessment

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PAGE ONE

PLEASE DO NOT WRITE IN THIS AREA



SERIAL #

Health, Health Education and Safety

1. How would you describe your general health?

Excellent Very good Good Fair Poor Don't know

2. Have you received information on the following topics from your college or university?

3. Are you interested in receiving information on the following topics from your college or university?

(Please mark the appropriate column for each question to the right)

	No	Yes	No	Yes
Alcohol and other drug use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cold/Flu/Sore throat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Depression/Anxiety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eating disorders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Grief and loss	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How to help others in distress	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Injury prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nutrition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physical activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pregnancy prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problem use of Internet/computer games	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relationship difficulties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sexual assault/Relationship violence prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sexually transmitted disease/infection (STD/I) prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sleep difficulties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stress reduction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Suicide prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tobacco use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Violence prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. Within the last 12 months, how often did you

(Please mark the appropriate column for each row)

Always
 Most of the time
 Sometimes
 Rarely
 Never
 N/A, did not do this activity within the last 12 months

Wear a seatbelt when you rode in a car?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wear a helmet when you rode a bicycle?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wear a helmet when you rode a motorcycle?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wear a helmet when you were inline skating?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. Within the last 12 months:

(Please mark the appropriate column for each row)

Yes
 No

Were you in a physical fight?	<input type="radio"/>	<input type="radio"/>
Were you physically assaulted (do not include sexual assault)?	<input type="radio"/>	<input type="radio"/>
Were you verbally threatened?	<input type="radio"/>	<input type="radio"/>
Were you sexually touched without your consent?	<input type="radio"/>	<input type="radio"/>
Was sexual penetration attempted (vaginal, anal, oral) without your consent?	<input type="radio"/>	<input type="radio"/>
Were you sexually penetrated (vaginal, anal, oral) without your consent?	<input type="radio"/>	<input type="radio"/>
Were you a victim of stalking (e.g., waiting for you outside your classroom, residence, or office; repeated emails/phone calls)?	<input type="radio"/>	<input type="radio"/>

3/8" spine
peril

6. Within the last 12 months, have you been in an intimate (coupled/partnered) relationship that was:

(Please mark the appropriate column for each row)

	Yes	No
Emotionally abusive? (e.g., called derogatory names, yelled at, ridiculed)	<input type="radio"/>	<input type="radio"/>
Physically abusive? (e.g., kicked, slapped, punched)	<input type="radio"/>	<input type="radio"/>
Sexually abusive? (e.g., forced to have sex when you didn't want it, forced to perform or have an unwanted sexual act performed on you)	<input type="radio"/>	<input type="radio"/>

7. How safe do you feel:

(Please mark the appropriate column for each row)

	Very safe	Somewhat safe	Somewhat unsafe	Not safe at all
On this campus (daytime)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
On this campus (nighttime)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the community surrounding this school (daytime)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the community surrounding this school (nighttime)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Alcohol, Tobacco, and Drug Use

8. Within the last 30 days, on how many days did you use:

(Please mark the appropriate column for each row)

	Have used	not in last 30 days	1-2 days	3-5 days	6-9 days	10-19 days	20-29 days	Used daily
Cigarettes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tobacco from a water pipe (hookah)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cigars, little cigars, clove cigarettes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Smokeless tobacco	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alcohol (beer, wine, liquor)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Marijuana (pot, weed, hashish, hash oil)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cocaine (crack, rock, freebase)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Methamphetamine (crystal meth, ice, speed)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other amphetamines (diet pills, bennies)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sedatives (downers, ludes)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hallucinogens (LSD, PCP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anabolic steroids (Testosterone)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Opiates (heroin, smack)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inhalants (glue, solvents, gas)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MDMA (Ecstasy)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other club drugs (GHB, Ketamine, Rohypnol)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other illegal drugs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

PAGE THREE

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SERIAL #

9. Within the last 30 days, how often do you think the typical student at your school used:

(State your best estimate; Please mark the appropriate column for each row)

	Never used	1-2 days	3-5 days	6-9 days	10-19 days	20-29 days	Used daily
Cigarettes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tobacco from a water pipe (hookah)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cigars, little cigars, clove cigarettes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Smokeless tobacco	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alcohol (beer, wine, liquor)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Marijuana (pot, weed, hashish, hash oil)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cocaine (crack, rock, freebase)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Methamphetamine (crystal meth, ice, crank)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other amphetamines (diet pills, bennies)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sedatives (downers, ludes)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hallucinogens (LSD, PCP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anabolic steroids (Testosterone)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Opiates (heroin, smack)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inhalants (glue, solvents, gas)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MDMA (Ecstasy)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other club drugs (GHB, Ketamine, Rohypnol)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other illegal drugs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

One drink of alcohol is defined as a 12 oz. can or bottle of beer or wine cooler, a 4 oz. glass of wine, or a shot of liquor straight or in a mixed drink.

10. The last time you "partied"/socialized how many drinks of alcohol did you have? (If you did not drink alcohol, please enter 00. If less than 10, enter 01, 02, 03, etc.)

D	<input type="radio"/>
R	<input type="radio"/>
I	<input type="radio"/>
N	<input type="radio"/>
K	<input type="radio"/>
S	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>

11. The last time you "partied"/socialized how many drinks of alcohol did you have? (If you did not drink alcohol, please enter 00. If less than 10, enter 01, 02, 03, etc.)

H	<input type="radio"/>
O	<input type="radio"/>
U	<input type="radio"/>
R	<input type="radio"/>
S	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>

12. How many drinks of alcohol do you think the typical student at your school had the last time he/she "partied"/socialized? (If you think the typical student at your school does not drink alcohol, please enter 00. If less than 10, enter 01, 02, 03, etc.)

D	<input type="radio"/>
R	<input type="radio"/>
I	<input type="radio"/>
N	<input type="radio"/>
K	<input type="radio"/>
S	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>
	<input type="radio"/>

13. Over the last two weeks, how many times have you had five or more drinks of alcohol at a sitting?

- N/A, don't drink 2 times 5 times 8 times
- None 3 times 6 times 9 times
- 1 time 4 times 7 times 10 or more times

14. Within the last 30 days, did you:

(Please mark the appropriate column for each row)

	N/A, don't drink	Yes
Drive after drinking any alcohol at all	<input type="radio"/>	<input type="radio"/>
Drive after drinking five or more drinks of alcohol	<input type="radio"/>	<input type="radio"/>

15. During the last 12 months, when you "partied"/socialized, how often did you:

(Please mark the appropriate column for each row)

	Rarely		Sometimes		
	Never	Most of the time	Always		
			N/A, don't drink		
Alternate non-alcoholic with alcoholic beverages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Avoid drinking games	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Choose not to drink alcohol	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Determine, in advance, not to exceed a set number of drinks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eat before and/or during drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have a friend let you know when you have had enough	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keep track of how many drinks you were having	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pace your drinks to 1 or fewer per hour	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stay with the same group of friends the entire time you were drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stick with only one kind of alcohol when drinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use a designated driver	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. Within the last 12 months, have you experienced any of the following as a consequence of your drinking?

(Please mark the appropriate column for each row)

	Yes		No
	N/A, don't drink		
Did something you later regretted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Forgot where you were or what you did	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Got in trouble with the police	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had sex with someone without giving your consent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had sex with someone without getting their consent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had unprotected sex	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physically injured yourself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physically injured another person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seriously considered suicide	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

17. Within the last 30 days, what percent of students at your school used:

State your best estimate. (If less than 10, please enter 01, 02, etc.)

	Cigarettes % Used	Alcohol % Used	Marijuana % Used
	<input type="text" value="00"/>	<input type="text" value="00"/>	<input type="text" value="00"/>
	<input type="text" value="01"/>	<input type="text" value="01"/>	<input type="text" value="01"/>
	<input type="text" value="02"/>	<input type="text" value="02"/>	<input type="text" value="02"/>
	<input type="text" value="03"/>	<input type="text" value="03"/>	<input type="text" value="03"/>
	<input type="text" value="04"/>	<input type="text" value="04"/>	<input type="text" value="04"/>
	<input type="text" value="05"/>	<input type="text" value="05"/>	<input type="text" value="05"/>
	<input type="text" value="06"/>	<input type="text" value="06"/>	<input type="text" value="06"/>
	<input type="text" value="07"/>	<input type="text" value="07"/>	<input type="text" value="07"/>
	<input type="text" value="08"/>	<input type="text" value="08"/>	<input type="text" value="08"/>
	<input type="text" value="09"/>	<input type="text" value="09"/>	<input type="text" value="09"/>

18. Within the last 12 months, have you taken any of the following prescription drugs that were not prescribed to you?

(Please mark the appropriate column for each row)

	Yes	
	No	
Antidepressants (e.g., Celexa, Lexapro, Prozac, Wellbutrin, Zoloft)	<input type="radio"/>	<input type="radio"/>
Erectile dysfunction drugs (e.g., Viagra, Cialis, Levitra)	<input type="radio"/>	<input type="radio"/>
Pain killers (e.g., OxyContin, Vicodin, Codeine)	<input type="radio"/>	<input type="radio"/>
Sedatives (e.g., Xanax, Valium)	<input type="radio"/>	<input type="radio"/>
Stimulants (e.g., Ritalin, Adderall)	<input type="radio"/>	<input type="radio"/>

PLEASE DO NOT WRITE IN THIS AREA



SERIAL #

Sex Behavior and Contraception

19. Within the last 12 months, with how many partners have you had oral sex, vaginal intercourse, or anal intercourse? (If you did not have a sex partner within the last 12 months, please enter 00. If less than 10, enter 01, 02, 03, etc.)

P		
A	0	0
R	1	1
T	2	2
N	3	3
E	4	4
R	5	5
S	6	6
	7	7
	8	8
	9	9

20. Within last 12 months, did you have sexual partner(s) who were:

(Please mark the appropriate column for each row)

	Yes	No
Female	<input type="radio"/>	<input type="radio"/>
Male	<input type="radio"/>	<input type="radio"/>
Transgender	<input type="radio"/>	<input type="radio"/>

21. Within the last 30 days, did you have:

(Please mark the appropriate column for each row)

	No, have done this sexual activity in the past but not in the last 30 days	Yes
Oral sex?	<input type="radio"/>	<input type="radio"/>
Vaginal intercourse?	<input type="radio"/>	<input type="radio"/>
Anal intercourse?	<input type="radio"/>	<input type="radio"/>

22. Within the last 30 days, how often did you or your partner(s) use a condom or other protective barrier (e.g., male condom, female condom, dam, glove) during:

(Please mark the appropriate column for each row)

	Have not done this sexual activity during the last 30 days N/A, never did this sexual activity	Never	Rarely	Sometimes	Most of the time	Always	CONDOM/ BARRIER USE
Oral sex?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaginal intercourse?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anal intercourse?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

23A. Did you or your partner use a method of birth control to prevent pregnancy the last time you had vaginal intercourse?

- Yes (continue to item 23B)
- N/A, have not had vaginal intercourse (skip to item 24)
- No, have not had vaginal intercourse that could result in a pregnancy (skip to item 24)
- No, did not want to prevent pregnancy (skip to item 24)
- No, did not use any birth control method (skip to item 24)
- Don't know (skip to item 24)

23B. Please indicate whether or not you or your partner used each of the following methods of birth control to prevent pregnancy the last time you had vaginal intercourse. (Please mark the appropriate column for each row)

	Yes	No		Yes	No
Birth control pills (monthly or extended cycle)	<input type="radio"/>	<input type="radio"/>	Diaphragm or cervical cap	<input type="radio"/>	<input type="radio"/>
Birth control shots	<input type="radio"/>	<input type="radio"/>	Contraceptive sponge	<input type="radio"/>	<input type="radio"/>
Birth control implants	<input type="radio"/>	<input type="radio"/>	Spermicide (e.g., foam, jelly, cream)	<input type="radio"/>	<input type="radio"/>
Birth control patch	<input type="radio"/>	<input type="radio"/>	Fertility awareness (e.g., calendar, mucous, basal body temperature)	<input type="radio"/>	<input type="radio"/>
Vaginal ring	<input type="radio"/>	<input type="radio"/>	Withdrawal	<input type="radio"/>	<input type="radio"/>
Intrauterine device (IUD)	<input type="radio"/>	<input type="radio"/>	Sterilization (e.g., hysterectomy, tubes tied, or vasectomy)	<input type="radio"/>	<input type="radio"/>
Male condom	<input type="radio"/>	<input type="radio"/>	Other method	<input type="radio"/>	<input type="radio"/>
Female condom	<input type="radio"/>	<input type="radio"/>			

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24. Within the last 12 months, have you or your partner(s) used emergency contraception ("morning after pill")?

- N/A, have not had vaginal intercourse in the last 12 months
- No
- Yes
- Don't know

25. Within the last 12 months, have you or your partner(s) become pregnant?

- N/A, have not had vaginal intercourse in the last 12 months
- No
- Yes, unintentionally
- Yes, intentionally
- Don't know

Weight, Nutrition, and Exercise

26. How do you describe your weight?

- Very underweight
- Slightly underweight
- About the right weight
- Slightly overweight
- Very overweight

27. Are you trying to do any of the following about your weight?

- I am not trying to do anything about my weight
- Stay the same weight
- Lose weight
- Gain weight

28. How many servings of fruits and vegetables do you usually have per day? (1 serving = 1 medium piece of fruit; 1/2 cup fresh, frozen, or canned fruit; 1/2 cup vegetables; 3/4 cup fruit/vegetable juice; 1 cup salad greens; or 1/4 cup dried fruit)

- 0 servings per day
- 1-2 servings per day
- 3-4 servings per day
- 5 or more servings per day

29. On how many of the past 7 days did you:

(Please mark the appropriate column for each row,

Do moderate-intensity cardio or aerobic exercise that caused a noticeable increase in heart rate, such as a brisk walk) for at least 30 minutes?

Do vigorous-intensity cardio or aerobic exercise that caused large increases in breathing or heart rate, such as jogging, for at least 20 minutes?

Do 8-10 strength training exercises (such as resistance weight machines) for 8-12 repetitions each?

	0 days	1 day	2 days	3 days	4 days	5 days	6 days	7 days
Do moderate-intensity cardio or aerobic exercise that caused a noticeable increase in heart rate, such as a brisk walk) for at least 30 minutes?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do vigorous-intensity cardio or aerobic exercise that caused large increases in breathing or heart rate, such as jogging, for at least 20 minutes?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do 8-10 strength training exercises (such as resistance weight machines) for 8-12 repetitions each?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Mental Health

30. Have you ever:

(Please mark the appropriate column for each row)

Felt things were hopeless

Felt overwhelmed by all you had to do

Felt exhausted (not from physical activity)

Felt very lonely

Felt very sad

Felt so depressed that it was difficult to function

Felt overwhelming anxiety

Felt overwhelming anger

Intentionally cut, burned, bruised, or otherwise injured yourself

Seriously considered suicide

Attempted suicide

	No, not in last 12 months	Yes, in the last 2 weeks	Yes, in the last 30 days	Yes, in the last 12 months
Felt things were hopeless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Felt overwhelmed by all you had to do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Felt exhausted (not from physical activity)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Felt very lonely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Felt very sad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Felt so depressed that it was difficult to function	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Felt overwhelming anxiety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Felt overwhelming anger	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intentionally cut, burned, bruised, or otherwise injured yourself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seriously considered suicide	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attempted suicide	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

31. Within the last 12 months, have you been diagnosed or treated by a professional for any of the following?
 (Please mark the appropriate column for each row)

	Yes, diagnosed but not treated	Yes, treated with medication	Yes, treated with psychotherapy	Yes, other treatment
Anorexia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anxiety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attention Deficit and Hyperactivity Disorder (ADHD)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bipolar Disorder	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bulimia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Depression	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insomnia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other sleep disorder	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obsessive Compulsive Disorder (OCD)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Panic attacks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Phobia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Schizophrenia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Substance abuse or addiction (alcohol or other drugs)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other addiction (e.g., gambling, internet, sexual)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other mental health condition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

32. Have you ever been diagnosed with depression? No Yes

33. Within the last 12 months, have any of the following been traumatic or very difficult for you to handle?
 (Please mark the appropriate column for each row)

	No	Yes
Academics	<input type="radio"/>	<input type="radio"/>
Career-related issues	<input type="radio"/>	<input type="radio"/>
Death of a family member or friend	<input type="radio"/>	<input type="radio"/>
Family problems	<input type="radio"/>	<input type="radio"/>
Interpersonal relationships	<input type="radio"/>	<input type="radio"/>
Other occupational issues	<input type="radio"/>	<input type="radio"/>
Financial issues	<input type="radio"/>	<input type="radio"/>
Health problem of a family member or partner	<input type="radio"/>	<input type="radio"/>
Personal appearance	<input type="radio"/>	<input type="radio"/>
Personal health issue	<input type="radio"/>	<input type="radio"/>
Sleep difficulties	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>

34. Have you ever received psychological or mental health services from any of the following?
 (Please mark the appropriate column for each row)

	No	Yes
Counselor/Therapist/Psychologist	<input type="radio"/>	<input type="radio"/>
Psychiatrist	<input type="radio"/>	<input type="radio"/>
Other medical provider (e.g., physician, nurse practitioner)	<input type="radio"/>	<input type="radio"/>
Minister/Priest/Rabbi/Other clergy	<input type="radio"/>	<input type="radio"/>

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35. Have you ever received psychological or mental health services from your current college/university's Counseling or Health Service?

- No Yes

36. If in the future you were having a personal problem that was really bothering you, would you consider seeking help from a mental health professional?

- No Yes

37. Within the last 12 months, how would you rate the overall level of stress you have experienced?

- No stress
- Less than average stress
- Average stress
- More than average stress
- Tremendous stress

Physical Health

38. Within the last 30 days, did you do any of the following?

(Please mark the appropriate column for each row)

	Yes	No
Exercise to lose weight	<input type="radio"/>	<input type="radio"/>
Diet to lose weight	<input type="radio"/>	<input type="radio"/>
Vomit or take laxatives to lose weight	<input type="radio"/>	<input type="radio"/>
Take diet pills to lose weight	<input type="radio"/>	<input type="radio"/>

39. Have you:

(Please mark the appropriate column for each row)

	Don't know	Yes	No
Had a dental exam and cleaning in the last 12 months?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(Males) Performed testicular self exam in the last 30 days?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(Females) Performed breast self exam in the last 30 days?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(Females) Had a routine gynecological exam in the last 12 months?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Used sunscreen regularly with sun exposure?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ever been tested for Human Immunodeficiency Virus (HIV) infection?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

40. Have you received the following vaccinations (shots)?

(Please mark the appropriate column for each row)

	Don't know	Yes	No
Hepatitis B	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Human Papillomavirus/HPV (cervical cancer vaccine)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Influenza (the flu) in the last 12 months (shot or nasal mist)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Measles, Mumps, Rubella	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Meningococcal disease (meningococcal meningitis)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Varicella (chicken pox)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Impediments to Academic Performance

(Please select the most serious outcome for each item below)

Significant disruption in thesis, dissertation, research, or practicum work
 Received an incomplete or dropped the course
 Received a lower grade in the course
 Received a lower grade on an exam or important project
 I have experienced this issue but my academics have not been affected
 This did not happen to me/not applicable

45. Within the last 12 months, have any of the following affected your academic performance?

Alcohol use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Allergies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anxiety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assault (physical)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assault (sexual)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attention Deficit and Hyperactivity Disorder (ADHD)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cold/Flu/Sore throat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concern for a troubled friend or family member	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chronic health problem or serious illness (e.g., diabetes, asthma, cancer)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chronic pain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Death of a friend or family member	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Depression	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discrimination (e.g., homophobia, racism, sexism)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drug use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eating disorder/problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Finances	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gambling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Homesickness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Injury (fracture, sprain, strain, cut)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internet use/computer games	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning disability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participation in extracurricular activities (e.g., camps, clubs, organizations, athletics)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pregnancy (yours or your partner's)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relationship difficulties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Roommate difficulties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sexually transmitted disease/infection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sinus infection/Ear infection/Bronchitis/Strain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sleep difficulties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stress	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify _____)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Demographic Characteristics

46. How old are you? →

Years		
0	1	2
3	4	5
6	7	8
9	0	1
2	3	4
5	6	7
8	9	0
1	2	3
4	5	6
7	8	9

47. What is your gender?

Female

Male

Transgender

48. What is your sexual orientation?

Heterosexual

Gay/Lesbian

Bisexual

Unsure

49. What is your height in feet and inches? →

Ft.	Inch
HEIGHT	
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

50. What is your weight in pounds? →

Pounds		
0	1	2
3	4	5
6	7	8
9	0	1
2	3	4
5	6	7
8	9	0
1	2	3
4	5	6
7	8	9

APPENDIX B Summary of Measures

Dependent Variables

Sexual Assault Victimization

Within the last 12 months:

Were you sexually touched without your consent?

Responses coded as: 0 = no; 1 = yes

Was sexual penetration attempted (vaginal, anal, oral) without your consent?

Responses coded as: 0 = no; 1 = yes

Were you sexually penetrated (vaginal, anal, oral) without your consent?

Responses coded as: 0 = no; 1 = yes

Independent Variables

Lifestyles-Routine Activity Variables:

Binge Drinking

Over the last two weeks, how many times have you had five or more drinks of alcohol at a sitting?

Responses coded as: 0 = no; 1 = yes

Alcohol Use

The last time you "partied"/socialized how many drinks of alcohol did you have?

Responses coded as: 0 = no drinks; 1 = one or more drinks

Marijuana Use

Within the last 30 days, on how many days did you use: Marijuana (pot, weed, hashish, hash oil)

Responses coded as: 0 = no, did not use; 1 = yes, used

Serious Drug Use

Within the last 30 days, on how many days did you use:

Cocaine (crack, rock, freebase)

Methamphetamine (crystal meth, ice, crank)

Other amphetamines (diet pills, bennies)

Sedatives (downers, ludes)

Hallucinogens (LSD, PCP)

Opiates (heroin, smack)

Inhalants (glue, solvents, gas) MDMA (Ecstasy)

Other club drugs (GHB, Ketamine, Rohypnol)

Other illegal drugs

Responses codes as 0-6

Number of Sexual Partners

Within the last 12 months, with how many partners have you had oral sex, vaginal intercourse, or anal intercourse?

Responses coded as: 0-98

Risk Avoidance Behaviors

During the last 12 months, when you “partied”/socialized, how often did you:

Alternate alcoholic and non-alcoholic beverages

Avoid drinking games

Choose not to drink alcohol

Keep track of how many drinks you were having

Pace your drinks to 1 or fewer per hour

Determine in advance not to exceed a certain number of drinks

Eat before and/or during drinking

Stick with one kind of alcohol when you are drinking

Responses coded as: 0-4

Fraternity/Sorority Membership

Are you a member of a social fraternity or sorority (e.g., National Interfraternity Conference, National Panhellenic Conference, National Pan-Hellenic Council, National Association of Latino Fraternal Organizations)

Responses coded as: 0 = no; 1 = yes

Athletic Participation

Within the last 12 months, have you participated in organized college athletics at any of the following levels?

Varsity

Club sports

Intramurals

Responses coded as: 0 = no; 1 = yes

Volunteers

How many hours a week do you volunteer?

Responses coded as: 0 = none; 1 = one or more

Housing

Where do you currently live?

Responses coded as: 0 = on-campus; 1=off campus

Employment

How many hours a week do you work for pay?

Responses coded as: 0 = none; 1 = one or more

Relationship Status

What is your relationship status?

Responses coded as: 0 = not in a relationship; 1 = in a relationship

Received Crime Prevention Information

Have you received information on the following topics from your college or university?

Injury Prevention

Sexual Assault/Relationship Violence Prevention

Violence Prevention

Responses coded as: 0 = no; 1 = yes

Partying/Friendship Variables

During the last 12 months, when you “partied”/socialized, how often did you:

Use a designated driver

Stay with same group of friends while partying

Have a friend let you know when you've had enough

Responses coded as: 0-4

Target Congruence:

Physical Stature

What is your height in feet and inches?

What is your weight in pounds?

The calculation for computing BMI is $\text{weight (kg)} / [\text{height (m)}]^2$.

Responses coded as: 0=healthy weight (reference); 1= underweight;

2=Overweight; 3=Obese

Psychological Distress

Within the last 2 weeks to 12 months have you ever:

Felt things were hopeless

Felt overwhelmed by all you had to do

Felt very lonely

Felt very sad

Felt very angry

Felt so depressed it was difficult to function

Felt overwhelming anxiety

Responses coded as: 0-7

Physical Limitations

Do you have any of the following disabilities or medical conditions? Mobility/Dexterity disability

Deaf/Hard of hearing

Partially sighted/Blind

Speech or language disorder

Responses coded as: 0 = no; 1 = yes

GPA

What is your approximate cumulative grade average?

Responses coded as: 0=A (reference); 1=B; 2=C; 3=D/F; 4=N/A

Race

How would you usually describe yourself?

Responses coded as: 0 = nonwhite; 1 = white

Sex

What is your gender?

Responses coded as: 0 = female; 1 = male

Age

How old are you?

Responses coded as: 18-24

Year in School

What is your year in school?

1st year undergraduate

2nd year undergraduate

3rd year undergraduate

4th year undergraduate

5th year or more undergraduate

Responses coded as: 0=1st year (reference), 1=2nd year, 2=3rd year, 3=4th year, 4=5th year or more

Sexual Orientation

What is your sexual orientation?

Responses coded as: 0= Heterosexual (reference); 1= Gay/lesbian; 2= Bisexual; 3= Unsure

International Student Status

Are you an international Student?

Responses coded as: 0=no; 1=yes

Control Measures:

Institution Type

0=Public; 1=private

Survey Mode of Administration

0=paper-based; 1=web-based

APPENDIX C
Information on the Risk-Avoidance Measure

Total Missing Count for Risk-Avoidance Composite Measure

Total Valid Items Answered	Freq.	Percent	Cum.
0	289	0.39	0.39
1	29	0.04	0.42
2	15	0.02	0.44
3	8	0.01	0.45
4	20	0.03	0.48
5	53	0.07	0.55
6	1,028	1.37	1.92
7	73,585	98.08	100
Total	75,027	100	

Change in Mean and S.D. for Risk-Avoidance Based on Differing Thresholds

# Valid Responses	n	Mean	Std. Dev.
>0	74,738	2.901949	1.38311
>1	74,709	2.901309	1.382807
>2	74,694	2.901236	1.382755
>3	74,686	2.901194	1.382753
>4	74,666	2.901197	1.382771
>5	74,613	2.901436	1.382779
>6	73,585	2.906763	1.384924

Principle Component Analysis for Risk-Avoidance Measures

Component	Eigenvalue	Difference	Proportion	Cum.
Comp 1	5.24	4.85	0.75	0.75
Comp 2	0.39	0.01	0.05	0.80
Comp 3	0.37	0.06	0.05	0.85
Comp 4	0.31	0.06	0.05	0.90
Comp 5	0.25	0.01	0.04	0.94
Comp 6	0.23	0.06	0.04	0.98
Comp 7	0.17	-	0.02	1.00

Component Matrix for Risk-Avoidance Measures

Question	Component
Alternate non-alcoholic beverages	0.841
Avoid drinking games	0.864
Determine not to exceed number of drinks	0.888
Eat before/during drinking	0.818
Keep track of how many drinks	0.852
Pace drinks to 1 or less per hour	0.92
Stick with only one kind of alcohol	0.872

The above tables indicate that only a relatively small number of cases did not answer all seven questions included in the composite risk-avoidance measure. Furthermore, there does not appear to be a drastic change in the mean and standard deviation of the measure—if at all—based on the change in threshold (ie. number of valid items answered). Thus, a threshold of four out of seven was chosen in order to ensure most items were answered while not losing information or statistical reliability; maintaining a less than 1% loss of cases. Finally, a principle component analysis of seven principle components extracted a one-factor solution that accounted for 75% of the total variance among the items. The factor loadings ranged from 0.92 to 0.81, showing that there is an underlying construct and that a composite measure can work just as well as a factor, given the extraction of a one-factor solution.

APPENDIX D

Information on the Measure of Friendship/Partying

Total Missing Count for Friendship/Partying Composite Measure

Total Valid Items		Freq.	Percent	Cum.
Answered				
	0	334	0.45	0.45
	1	34	0.50	0.49
	2	607	0.81	1.30
	3	74,052	98.70	100.00
Total		75,027		

Change in Mean and S.D. for Risk-Avoidance Based on Differing Thresholds

# Valid Responses	n	Mean	Std. Dev.
>0	74,693	3.40	1.16
>1	74,659	3.40	1.16
>2	74,052	3.40	1.16

Principle Component Analysis for Friendship/ Partying Measures

Component	Eigenvalue	Difference	Proportion	Cum.
Comp 1	2.14	1.66	0.71	0.71
Comp 2	0.47	0.1	0.15	0.87
Comp 3	0.37		0.12	1.00

Component Matrix for Friendship/Partying Measures

Question	Component
Use a designated driver	0.81
Stay with same group of friends the entire time you drink	0.86
Have a friend let you know when you've had enough	0.86

The above tables indicate that only a relatively small number of cases did not answer all three questions included in the composite friendship/partying measure. Furthermore, there does not appear to be a drastic change in the mean and standard deviation of the measure—if at all—based on the change in threshold (ie. number of valid items answered). Thus, a threshold of two out of three was chosen in order to ensure most items were answered while not losing information or statistical reliability; maintaining a less than 2% loss of cases. Finally, a principle component analysis of three principle components extracted a one-factor solution that accounted for 71% of the total variance among the items. The factor loadings ranged from 0.86 to 0.81, showing that there is an underlying construct and that a composite measure can work just as well as a factor, given the extraction of a one-factor solution.

APPENDIX E
Information on the Measure of Psychological Distress
Total Missing Count for Psychological Distress Composite Measure

Total Valid Items Answered	Freq.	Percent	Cum.
0	154	0.21	0.21
1	12	0.02	0.22
2	18	0.02	0.25
3	12	0.02	0.26
4	24	0.03	0.29
5	111	0.15	0.44
6	1,691	2.25	2.7
7	73,005	97.3	100

Change in Mean and S.D. for Psychological Distress Based on Differing Thresholds

Total	Freq.	Percent	Cum.
# Valid Responses	n	Mean	Std. Dev.
>0	74,873	0.54	0.33
>1	74,861	0.54	0.33
>2	74,843	0.54	0.33
>3	74,831	0.54	0.33
>4	74,807	0.54	0.33
>5	74,696	0.54	0.33
>6	73,005	0.54	0.33

Principle Component Analysis for Psychological Distress Measures

Component	Eigenvalue	Difference	Proportion	Cum.
Comp 1	3.60	2.74	0.51	0.51
Comp 2	0.86	0.12	0.12	0.63
Comp 3	0.73	0.18	0.10	0.74
Comp 4	0.55	0.06	0.07	0.82
Comp 5	0.49	0.05	0.07	0.89
Comp 6	0.44	0.13	0.06	0.95
Comp 7	0.30	-	0.04	1.00

Component Matrix for Psychological Distress Measures

<u>Question</u>	<u>Component</u>
Felt things were hopeless	0.75
Felt overwhelmed by all you had to do	0.50
Felt very lonely	0.77
Felt very sad	0.73
Felt so depressed it was difficult to function	0.73
Felt overwhelming anxiety	0.67
Felt overwhelming anger	0.80

The above tables indicate that only a relatively small number of cases did not answer all seven questions included in the composite psychological distress measure. Furthermore, there does not appear to be a drastic change in the mean and standard deviation of the measure—if at all—based on the change in threshold (ie. number of valid items answered). Thus, a threshold of four out of seven was chosen in order to ensure most items were answered while not losing information or statistical reliability; maintaining a less than 1% loss of cases. Finally, a principle component analysis of seven principle components extracted a one-factor solution that accounted for 51% of the total variance among the items. The factor loadings ranged from 0.50 to 0.80, showing that there is an underlying construct and that a composite measure can work just as well as a factor, given the extraction of a one-factor solution.

APPENDIX F
Tolerance and VIF Scores

Variable	VIF	Tolerance
Binge Drinking	1.60	0.62
Number of sexual partners	1.37	0.72
Eating disorder	1.04	0.95
Sex	1.14	0.87
Sexual Orientation		
Heterosexual (reference)		
Gay/Lesbian	1.04	0.96
Bisexual	1.03	0.97
Unsure	1.01	0.98
Year in School		
Freshman (reference)		
Sophomore	1.53	0.65
Junior	1.70	0.58
Senior	1.75	0.57
4+ Years	1.25	0.79
International Student Status	1.03	0.96
Fraternity/ Sorority Member	1.07	0.93
GPA		
A (reference)		
B	1.24	0.80
C	1.29	0.77
D/F	1.03	0.96
N/A	1.03	0.97
Relationship Status	1.10	0.91
Marijuana Use	1.30	0.76
Alcohol Use	2.60	0.38
Serious Drug Use	1.15	0.86
Risk-Avoidance Behaviors	3.00	0.33
Received Crime Prevention Information	1.04	0.96
Athletic Participation	1.04	0.88
Physical Limitations	1.01	0.99
Psychological Distress	1.10	0.90
BMI		
Healthy Weight (reference)		
Underweight	1.04	0.96
Overweight	1.07	0.93
Obese	1.08	0.92
Employed	1.09	0.91
Volunteer	1.07	0.93
Housing	1.41	0.70
Race	1.09	0.92
Pub/Priv	1.25	0.80
Survey Type	1.09	0.92

APPENDIX G

Bivariate Binary Logistic Model Fit Statistics for Sexual Victimization for the Total Sample and Female and Male sub-samples

Variables	<u>Total</u>			<u>Female</u>			<u>Male</u>		
	-2 Log Likelihood	Chi-Squared	Pseudo R2	-2 Log Likelihood	Chi-Squared	Pseudo R2	-2 Log Likelihood	Chi-Squared	Pseudo R2
Physical Stature	-19880.392	43.40*	0.001	-15358.322	29.77*	0.001	-4126.097	2.13	0.000
Psychological Distress	-19206.883	1753.76*	0.043	-14837.175	1355.02*	0.043	-4085.399	169.73*	0.020
Eating Disorder	-19739.461	409.87*	0.010	-15296.059	249.43*	0.008	-4081.348	86.63*	0.010
GPA	-20034.700	53.67*	0.001	-15475.038	51.96*	0.007	-4144.333	33.37*	0.004
Physical Limitations	-20052.158	35.67*	0.000	-15495.950	18.26*	0.000	-4148.790	34.31*	0.004
Year in School	-20127.465	41.17*	0.001	-15536.783	43.56*	0.001	-4185.438	8.07	0.001
Sex	-19748.034	800.03*	0.019	-	-	-	-	-	-
Sexual Orientation	-19832.196	357.16*	0.009	-15349.408	233.88*	0.007	-4071.192	165.36*	0.019
Race	-20147.019	2.06	0.000	-15552.141	12.84*	0.000	-4183.553	11.84*	0.001
Interna't Student	-20002.679	0.85	0.000	-15449.167	0.55	0.000	-4156.276	0.03	0.000

*p<0.01

APPENDIX H

Bivariate Binary Logistic Model Fit Statistics for Sexual Touch Without Consent for the Total Sample and Female and Male subsamples

Variables	<u>Total</u>			<u>Female</u>			<u>Male</u>		
	-2 Log Likelihood	Chi-Squared	Pseudo R2	-2 Log Likelihood	Chi-Squared	Pseudo R2	-2 Log Likelihood	Chi-Squared	Pseudo R2
Physical Stature	-18401.527	36.74*	0.001	-14242.869	22.64*	0.000	-3811.343	3.83	0.000
Psychological Distress	-17655.663	1876.32*	0.050	-13656.553	1476.46*	0.051	-3752.677	188.96*	0.024
Eating Disorder	-18275.236	358.93*	0.009	-14188.139	222.15*	0.007	-3769.874	68.26*	0.009
GPA	-18552.483	44.47*	0.001	-14358.769	45.62*	0.001	-3828.445	25.46*	0.003
Physical Limitations	-18560.003	33.30*	0.000	-14371.327	17.25*	0.000	-3830.288	31.20*	0.004
Year in School	-18633.294	34.09*	0.000	-14415.854	31.42*	0.001	-3862.715	7.53	0.001
Sex	-18298.045	704.59*	0.018	-	-	-	-	-	-
Sexual Orientation	-18347.612	368.88*	0.010	-14221.517	250.25*	0.008	-3769.505	128.40*	0.016
Race	-18648.738	3.21	0.000	-14425.218	12.70*	0.000	-3862.973	7.01*	0.000
Interna't Student	-18515.361	0.19	0.000	-14324.479	0.08	0.000	-3843.053	0.00	0.000

*p<.01

APPENDIX I

Bivariate Binary Logistic Model Fit Statistics for Rape Victimization for the Total Sample and Female and Male subsamples

Variables	<u>Total</u>			<u>Female</u>			<u>Male</u>		
	-2 Log Likelihood	Chi-Squared	Pseudo R2	-2 Log Likelihood	Chi-Squared	Pseudo R2	-2 Log Likelihood	Chi-Squared	Pseudo R2
Physical Stature	-9971.932	13.88*	0.000	-8181.272	5.33	0.000	-1524.288	0.26	0.000
Psychological Distress	-9630.439	862.72*	0.042	-7892.865	705.72*	0.042	-1530.764	36.58*	0.011
Eating Disorder	-9868.635	274.25*	0.013	-8124.842	154.80*	0.009	-1493.189	89.68*	0.029
GPA	-10017.733	49.10*	0.002	-8204.572	53.96*	0.003	-1535.706	16.16*	0.005
Physical Limitations	-10044.299	16.35*	0.000	-8253.181	4.22*	0.000	-1530.679	36.13*	0.011
Year in School	-10077.575	21.31*	0.001	-8.251.367	28.76*	0.001	-1551.670	5.57	0.001
Sex	-9820.205	536.05*	0.026	-	-	-	-	-	-
Sexual Orientation	-9945.000	173.39*	0.008	-8171.828	98.68*	0.006	-1489.235	108.65*	0.035
Race	-10087.819	0.82	0.000	-8262.122	7.25*	0.000	-1547.771	13.37*	0.004
Interna't Student	-10005.743	0.01	0.000	-8206.907	0.20	0.000	-1529.227	1.40	0.000

*p<0.01

APPENDIX J
Cross Tabs for Sexual Assault Victimization for the Total Sample

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
<u>Lifestyle-Routine Activities</u>				
<u>Variables</u>				
Proximity				
Housing				
Off-Campus	31,474 (92.47)	2,300 (6.76)	264 (0.78)	34,038 (100)
On-Campus	37,072 (90.93)	3,390 (8.31)	310 (0.76)	40,772 (100)
Missing	195 (89.86)	20 (9.22)	2 (0.92)	217 (100)
Total	68,741 (91.62)	5,710 (7.61)	576 (0.77)	75,027 (100)
Exposure				
Binge Drinking				
No	44,324 (93.52)	2,744 (5.79)	326 (0.69)	47,394 (100)
Yes	24,182 (88.36)	2,947 (10.77)	240 (0.88)	27,369 (100)
Missing	235 (89.02)	19 (7.20)	10 (3.79)	264 (100)
Total	68,741 (91.62)	5,710 (7.61)	576 (0.77)	75,027 (100)
Alcohol Use				
No	20,241 (95.31)	864 (4.03)	140 (0.65)	21,425 (100)
Yes	48,030 (90.16)	4,823 (9.05)	420 (0.79)	53,273 (100)
Missing	290 (88.15)	23 (6.99)	16 (4.86)	329 (100)
Total	68,741 (91.62)	5710 (7.61)	576 (0.77)	75,207 (100)
Marijuana Use				
No	56,734 (92.92)	3,895 (6.38)	431 (0.71)	61,060 (100)
Yes	11,615 (86.08)	1,775 (13.15)	107 (0.79)	13,497 (100)
Missing	392 (83.40)	40 (8.51)	38 (8.09)	470 (100)
Total	68,741 (91.62)	5,710 (7.61)	576 (0.77)	75,027 (100)
Serious Drug Use				
Number of Sexual Partners	-	-	-	-
Athletic Participation				
No	44,809 (91.84)	3,612 (7.40)	370 (0.76)	48,791 (100)
Yes	23,730 (91.26)	2,071 (7.96)	201 (0.77)	26,002 (100)
Missing	202 (86.32)	27 (11.54)	5 (2.14)	234 (100)
Total	68,741 (91.62)	5,710 (7.61)	576 (0.77)	75,027 (100)
Fraternity/Sorority Member				
No	60,581 (91.89)	4,850 (7.36)	495 (0.75)	65,926 (100)
Yes	7,554 (89.57)	811 (9.62)	69 (0.82)	8,434 (100)
Missing	606 (90.85)	49 (7.35)	12 (1.80)	667 (100)
Total	68,741 (91.62)	5,710 (7.61)	576 (0.77)	75,027 (100)
Volunteer				
No	42,053 (92.30)	3,150 (6.91)	356 (0.78)	45,559 (100)
Yes	25,983 (90.58)	2,491 (8.68)	212 (0.74)	28,686 (100)
Missing	705 (90.15)	69 (8.82)	8 (1.02)	782 (100)
Total	68,741 (91.62)	5,710 (7.61)	576 (0.77)	75,027 (100)
Employed				
No	31,955 (92.47)	2,500 (7.26)	260 (0.75)	34,715 (100)
Yes	36,449 (91.96)	3,186 (8.04)	309 (0.77)	39,994 (100)
Missing	337 (91.58)	24 (6.52)	7 (1.90)	368 (100)
Total	68,741 (92.33)	5,710 (7.61)	576 (0.77)	75,027 (100)
Target Attractiveness				
Relationship Status				
Not in a relationship	36,348 (90.74)	3,408 (8.51)	302 (0.75)	40,058 (100)
In a relationship	32,176 (92.66)	2,277 (6.56)	270 (0.78)	34,723 (100)
Missing	217 (88.21)	25 (10.16)	4 (1.63)	246 (100)
Total	68,741 (91.62)	5,710 (7.61)	576 (0.77)	75,027 (100)
Risk-Avoidance Behaviors				
	-	-	-	-

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
Guardianship				
Received Crime Prevention Information				
No	17,819 (92.98)	1,209 (6.31)	137 (0.71)	19,165 (100)
Yes	49,553 (91.19)	4,410 (8.12)	379 (0.70)	54,342 (100)
Missing	1,369 (90.07)	91 (5.99)	60 (3.95)	1,520 (100)
Total	68,741 (91.62)	5,710 (7.61)	576 (0.77)	75,027 (100)
Target Congruence Variables				
Target Vulnerability				
Physical Stature				
Healthy Weight	43,983 (91.28)	3,841 (7.97)	360 (0.75)	48,184 (100)
Underweight	3,431 (91.03)	308 (8.17)	30 (0.80)	3,769 (100)
Overweight	13,903 (92.13)	1,072 (7.10)	116 (0.77)	15,091 (100)
Obese	6,530 (93.27)	421 (6.01)	50 (0.71)	7,001 (100)
Missing	894 (91.04)	68 (6.92)	20 (2.04)	982 (100)
Total	68,741 (91.62)	5,710 (7.61)	576 (0.77)	75,027 (100)
Psychological Distress				
Eating Disorder				
No	66,422 (92.07)	5,187 (7.19)	533 (.074)	72,124 (100)
Yes	1,730 (78.17)	462 (20.88)	21 (0.95)	2,213 (100)
Missing	589 (87.65)	61 (9.08)	22 (3.27)	672 (100)
Total	68,741 (91.62)	5,710 (7.61)	576 (0.77)	75,027 (100)
GPA				
A	25,310 (92.44)	1,897 (6.93)	173 (0.63)	27,380 (100)
B	33,737 (9.40)	2,875 (7.79)	301 (0.82)	36,913 (100)
C	8,143 (90.57)	765 (8.51)	83 (0.92)	8,991 (100)
D/F	482 (86.85)	71 (12.79)	2 (0.36)	555 (100)
N/A	725 (88.96)	79 (9.69)	11 (1.35)	815 (100)
Missing	344 (92.33)	23 (6.17)	6 (1.61)	373 (100)
Total	68,741 (91.62)	5,710 (7.61)	576 (0.77)	75,027 (100)
Physical Limitations				
None	66,050 (91.76)	5,390 (7.49)	539 (0.75)	71,979 (100)
1 or more limitation	2,453 (88.49)	297 (10.71)	22 (0.79)	2,772 (100)
Missing	238 (86.23)	23 (8.33)	15 (5.43)	276 (100)
Total	68,741 (91.62)	5,710 (7.61)	576 (0.77)	75,027 (100)
Year in School				
Freshman	18,677 (91.20)	1,641 (8.01)	161 (0.79)	20,479 (100)
Sophomore	17,362 (91.13)	1,542 (8.09)	147 (0.77)	19,051 (100)
Junior	16,256 (91.94)	1,291 (7.30)	135 (0.76)	17,682 (100)
Senior	13,509 (92.02)	1,069 (7.28)	103 (0.70)	14,681 (100)
+4 Years	2,937 (93.71)	167 (5.33)	30 (0.96)	3,134 (100)
Total	68,741 (91.62)	5,710 (7.61)	576 (0.77)	75,027 (100)
Target Gratifiability				
Sex				
Female	44,728 (88.76)	4,713 (9.46)	387 (0.78)	49,828 (100)
Male	24,013 (95.29)	997 (3.96)	189 (0.75)	25,199 (100)
Total	68,741 (91.62)	5,710 (7.61)	576 (0.77)	75,027 (100)

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
Target Antagonism				
Sexual Orientation				
Heterosexual	63,197 (92.20)	4,824 (7.04)	532 (0.76)	68,544 (100)
Gay/Lesbian	1,720 (89.07)	197 (10.20)	14 (0.73)	1,931 (100)
Bisexual	2,185 (82.39)	447 (16.86)	20 (0.75)	2,652 (100)
Unsure	1,190 (84.52)	206 (14.63)	12 (0.85)	1,408 (100)
Missing	449 (91.26)	36 (7.32)	7 (1.42)	492 (100)
Total	68,741 (91.62)	5,710 (7.61)	576 (0.77)	75,027 (100)
Race				
Non-White	16,700 (91.73)	1,339 (7.36)	166 (0.91)	18,205 (100)
White, Non-Hispanic	52,041	4,371 (7.69)	410 (0.72)	52,822 (100)
Total	68,741 (91.62)	5,710 (7.61)	576 (0.77)	75,027 (100)
International Student Status				
No	63,350 (91.61)	5,281 (7.64)	522 (0.75)	69,153 (100)
Yes	4,894 (91.85)	388 (7.28)	46 (0.86)	5,328 (100)
Missing	497 (91.03)	41 (7.51)	8 (1.47)	546 (100)
Total	68,741 (91.62)	5,710 (7.61)	576 (0.77)	75,027 (100)

APPENDIX K
Cross Tabs for Sexual Assault Victimization for Female Subsample

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
<u>Lifestyle-Routine Activities</u>				
<u>Variables</u>				
Proximity				
Housing				
Off-Campus	20,277 (90.88)	1,856 (8.32)	178 (0.80)	22,311 (100)
On-Campus	24,337 (88.86)	2,841 (10.37)	209 (0.76)	27,387 (100)
Missing	114 (87.69)	16 (12.31)	0 (0)	130 (100)
Total	44,728 (89.76)	4,713 (9.46)	387 (0.78)	49,828 (100)
Exposure				
Binge Drinking				
No	31,065 (92.18)	2,398 (7.12)	239 (0.71)	33,702 (100)
Yes	13,523 (84.66)	2,307 (14.44)	143 (0.90)	15,973 (100)
Missing	140 (91.50)	8 (5.23)	5 (3.27)	153 (100)
Total	44,728 (89.76)	4,713 (9.46)	387 (0.78)	49,828 (100)
Alcohol Use				
No	13,306 (94.29)	710 (5.03)	96 (0.68)	14,112 (100)
Yes	31,1234 (87.98)	3,986 (11.23)	283 (0.80)	35,503 (100)
Missing	188 (88.26)	17 (7.98)	8 (3.76)	213 (100)
Total	44,728 (89.76)	4,713 (9.46)	387 (0.78)	49,828 (100)
Marijuana Use				
No	37,932 (91.35)	3,284 (7.91)	307 (0.74)	41,523 (100)
Yes	6,556 (81.78)	1,400 (17.46)	61 (0.76)	8,017 (100)
Missing	240 (83.33)	29 (10.07)	19 (6.06)	288 (100)
Total	44,728 (89.76)	4,713 (9.46)	387 (0.78)	49,828 (100)
Serious Drug Use				
Number of Sexual Partners	-	-	-	-
Athletic Participation				
No	31,976 (90.40)	3,124 (8.83)	272 (0.77)	35,372 (100)
Yes	12,623 (88.24)	1,569 (10.96)	114 (0.80)	14,315 (100)
Missing	120 (85.11)	20 (14.18)	1 (0.71)	141 (100)
Total	44,728 (89.76)	4,713 (9.46)	387 (0.78)	49,828 (100)
Fraternity/Sorority Member				
No	39,290 (90.01)	4,029 (9.23)	334 (0.77)	43,653 (100)
Yes	5,044 (87.95)	644 (11.23)	47 (0.82)	5,735 (100)
Missing	394 (89.55)	40 (9.09)	6 (1.36)	440 (100)
Total	44,728 (89.76)	4,713 (9.46)	387 (0.78)	49,828 (100)
Volunteer				
No	26,214 (90.45)	2,544 (8.78)	233 (0.77)	28,981 (100)
Yes	18,081 (88.82)	2,116 (10.39)	159 (0.78)	20,356 (100)
Missing	433 (88.19)	53 (10.79)	5 (1.02)	491 (100)
Total	44,728 (89.76)	4,713 (9.46)	387 (0.78)	49,828 (100)
Employed				
No	19,712 (89.98)	2,036 (9.29)	160 (0.73)	21,908 (100)
Yes	24,806 (89.59)	2,660 (9.61)	222 (0.80)	27,688 (100)
Missing	210 (90.52)	17 (7.33)	5 (2.16)	232 (100)
Total	44,728 (89.76)	4,713 (9.46)	387 (0.78)	49,828 (100)
Target Attractiveness				
Relationship Status				
Not in a relationship	22,440 (88.28)	2,793 (10.99)	187 (0.74)	25,420 (100)
In a relationship	22,173 (91.34)	1,903 (7.84)	199 (0.82)	24,275 (100)
Missing	115 (86.47)	17 (12.78)	1 (0.75)	133 (100)
Total	44,728 (89.76)	4,713 (9.46)	387 (0.78)	49,828 (100)
Risk-Avoidance Behaviors				
	-	-	-	-

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
Guardianship				
Received Crime Prevention Information				
No	11,586 (91.49)	983 (7.76)	94 (0.74)	12,663 (100)
Yes	32,338 (89.18)	3,649 (10.10)	261 (0.72)	36,138 (100)
Missing	914 (89.00)	81 (7.89)	32 (3.12)	1,027 (100)
Total	44,728 (89.76)	4,713 (9.46)	387 (0.78)	49,828 (100)
Target Congruence Variables				
Target Vulnerability				
Physical Stature				
Healthy Weight	29,523 (89.39)	3,253 (9.85)	252 (0.76)	33,028 (100)
Underweight	2,592 (89.72)	273 (9.45)	24 (0.83)	2,890 (100)
Overweight	7,920 (90.03)	807 (9.17)	70 (0.80)	8,797 (100)
Obese	4,062 (91.88)	328 (7.42)	31 (0.70)	4,421 (100)
Missing	630 (91.04)	52 (7.51)	10 (1.45)	692 (100)
Total	44,728 (89.76)	4,713 (9.46)	387 (0.78)	49,828 (100)
Psychological Distress				
Eating Disorder	-	-	-	-
No	42,830 (90.28)	4,253 (8.97)	356 (0.75)	47,439 (100)
Yes	1,555 (78.18)	416 (20.92)	18 (0.90)	1,989 (100)
Missing	343 (85.75)	44 (11)	13 (3.25)	400 (100)
Total	44,728 (89.76)	4,713 (9.46)	387 (0.78)	49,828 (100)
GPA				
A	17,150 (90.69)	1,629 (8.61)	131 (0.69)	18,910 (100)
B	12,933 (89.56)	2,355 (9.62)	202 (0.82)	24,490 (100)
C	4,717 (88.00)	601 (11.21)	42 (0.78)	5,360 (100)
D/F	255 (83.33)	50 (16.34)	1 (0.33)	306 (100)
N/A	474 (86.97)	62 (11.38)	9 (1.65)	545 (100)
Missing	199 (91.71)	16 (7.37)	2 (0.92)	217 (100)
Total	44,728 (89.76)	4,713 (9.46)	387 (0.78)	49,828 (100)
Physical Limitations				
None	43,116 (89.89)	4,482 (9.34)	369 (0.77)	47,967 (100)
1 or more limitation	1,477 (86.78)	214 (12.57)	11 (0.65)	1,702 (100)
Missing	135 (84.91)	17 (10.69)	7 (4.40)	159 (100)
Total	44,728 (89.76)	4,713 (9.46)	387 (0.78)	49,828 (100)
Year in School				
Freshman	12,077 (88.98)	1,392 (10.26)	103 (0.76)	13,572 (100)
Sophomore	11,336 (89.06)	1,287 (10.11)	105 (0.82)	12,728 (100)
Junior	10,667 (90.39)	1,050 (8.90)	84 (0.71)	11,801 (100)
Senior	8,932 (90.55)	856 (8.68)	76 (0.77)	9,864 (100)
+4 Years	1,716 (92.11)	128 (6.87)	19 (1.02)	1,863 (100)
Total	44,728 (89.76)	4,713 (9.46)	387 (0.78)	49,828 (100)
Target Gratifiability				
Sex	-	-	-	-
Female	-	-	-	-
Male	-	-	-	-
Total	-	-	-	-

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
Target Antagonism				
Sexual Orientation				
Heterosexual	41,289 (90.36)	4,051 (8.87)	354 (0.77)	45,694 (100)
Gay/Lesbian	614 (87.97)	76 (10.89)	8 (1.15)	698 (100)
Bisexual	1,715 (90.78)	391 (18.42)	17 (0.80)	2,123 (100)
Unsure	823 (82.38)	168 (16.82)	8 (0.80)	999 (100)
Missing	287 (91.40)	27 (8.60)	0 (0.0)	314 (100)
Total	44,728 (89.76)	4,713 (9.46)	387 (0.78)	49,828 (100)
Race				
Non-White	11,088 (90.50)	1,058 (8.64)	106 (0.87)	12,252 (100)
White, Non-Hispanic	33,640 (89.53)	3,655 (9.73)	281 (0.75)	37,576 (100)
Total	44,728 (89.76)	4,713 (9.46)	387 (0.78)	49,828 (100)
International Student Status				
No	41,286 (89.75)	4,364 (9.49)	352 (0.77)	46,002 (100)
Yes	3,127 (90.04)	316 (9.10)	30 (0.86)	3,473 (100)
Missing	315 (89.24)	33 (9.35)	5 (1.42)	353 (100)
Total	44,728 (89.76)	4,713 (9.46)	387 (0.78)	49,828 (100)

APPENDIX L
Cross Tabs for Sexual Assault Victimization for Male Subsample

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
<u>Lifestyle-Routine Activities</u>				
<u>Variables</u>				
Proximity				
Housing				
Off-Campus	11,197 (95.48)	444 (3.79)	86 (0.73)	11,727 (100)
On-Campus	12,735 (95.14)	549 (4.10)	101 (0.75)	13,385 (100)
Missing	81 (93.10)	4 (4.60)	2 (2.30)	87 (100)
Total	24,013 (95.29)	997 (3.96)	189 (0.75)	25,199 (100)
Exposure				
Binge Drinking				
No	13,259 (96.84)	346 (2.53)	87 (0.64)	13,692 (100)
Yes	10,659 (93.53)	640 (5.62)	97 (0.85)	11,396 (100)
Missing	95 (85.59)	11 (9.91)	5 (4.50)	111 (100)
Total	24,013 (95.29)	997 (3.96)	189 (0.75)	25,199 (100)
Alcohol Use				
No	7,115 (97.29)	154 (2.11)	44 (0.60)	7,313 (100)
Yes	16,796 (94.52)	837 (4.71)	137 (0.77)	17,770 (100)
Missing	102 (87.93)	6 (5.17)	8 (6.90)	116 (100)
Total	24,013 (95.29)	997 (3.96)	189 (0.75)	25,199 (100)
Marijuana Use				
No	18,802 (96.24)	611 (3.13)	124 (0.63)	19,537 (100)
Yes	5,059 (92.32)	375 (6.84)	46 (0.84)	5,480 (100)
Missing	152 (83.52)	11 (6.04)	19 (10.44)	182 (100)
Total	24,013 (95.29)	997 (3.96)	189 (0.75)	25,199 (100)
Serious Drug Use				
Number of Sexual Partners	-	-	-	-
Athletic Participation				
No	12,833 (95.63)	488 (3.64)	98 (0.73)	13,419 (100)
Yes	11,098 (94.96)	502 (4.30)	87 (0.74)	11,687 (100)
Missing	82 (88.17)	7 (7.53)	4 (4.30)	93 (100)
Total	24,013 (95.29)	997 (3.96)	189 (0.75)	25,199 (100)
Fraternity/Sorority Member				
No	21,291 (95.59)	821 (3.69)	161 (0.72)	22,273 (100)
Yes	2,510 (93.00)	167 (6.19)	22 (0.82)	2,699 (100)
Missing	212 (93.39)	9 (3.96)	6 (2.64)	227 (100)
Total	24,013 (95.29)	997 (3.96)	189 (0.75)	25,199 (100)
Volunteer				
No	15,839 (95.54)	606 (3.66)	133 (0.80)	16,578 (100)
Yes	7,902 (94.86)	375 (4.50)	53 (0.64)	8,330 (100)
Missing	272 (93.47)	16 (5.50)	3 (1.03)	291 (100)
Total	24,013 (95.29)	997 (3.96)	189 (0.75)	25,199 (100)
Employed				
No	12,243 (95.60)	464 (3.62)	100 (0.78)	12,807 (100)
Yes	11,643 (95.00)	526 (4.29)	87 (0.71)	12,256 (100)
Missing	127 (93.38)	7 (5.15)	2 (1.47)	136 (100)
Total	24,013 (95.29)	997 (3.96)	189 (0.75)	25,199 (100)
Target Attractiveness				
Relationship Status				
Not in a relationship	13,908 (95.01)	615 (4.20)	115 (0.79)	14,638 (100)
In a relationship	10,003 (95.74)	374 (3.58)	71 (0.68)	10,448 (100)
Missing	102 (90.27)	8 (7.08)	3 (2.65)	113 (100)
Total	24,013 (95.29)	997 (3.96)	189 (0.75)	25,199 (100)
Risk-Avoidance Behaviors				
	-	-	-	-

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
Guardianship				
Received Crime Prevention Information				
No	6,233 (95.86)	226 (3.48)	43 (0.66)	6,502 (100)
Yes	17,325 (95.17)	761 (4.18)	118 (0.65)	18,204 (100)
Missing	455 (92.29)	10 (2.03)	28 (5.68)	493 (100)
Total	24,013 (95.29)	997 (3.96)	189 (0.75)	25,199 (100)
Target Congruence Variables				
Target Vulnerability				
Physical Stature				
Healthy Weight	14,460 (95.41)	522 (3.88)	108 (0.71)	15,156 (100)
Underweight	838 (95.34)	35 (3.98)	6 (0.68)	879 (100)
Overweight	5,983 (95.06)	265 (4.21)	46 (0.73)	6,294 (100)
Obese	2,468 (95.66)	93 (3.60)	19 (0.74)	2,580 (100)
Missing	264 (91.03)	16 (5.52)	10 (3.45)	290 (100)
Total	24,013 (95.29)	997 (3.96)	189 (0.75)	25,199 (100)
Psychological Distress				
Eating Disorder				
No	23,592 (95.50)	934 (3.78)	177 (0.72)	24,703 (100)
Yes	175 (78.12)	46 (20.54)	3 (1.34)	224 (100)
Missing	246 (90.44)	17 (6.25)	9 (3.31)	272 (100)
Total	24,013 (95.29)	997 (3.96)	189 (0.75)	25,199 (100)
GPA				
A	8,160 (96.34)	268 (3.16)	42 (0.50)	8,470 (100)
B	11,804 (95.02)	520 (4.19)	99 (0.80)	12,423 (100)
C	3,426 (94.35)	164 (4.52)	41 (1.31)	3,631 (100)
D/F	227 (92.96)	21 (8.43)	1 (0.40)	249 (100)
N/A	251 (92.96)	17 (6.30)	2 (0.74)	270 (100)
Missing	145 (92.95)	7 (4.49)	4 (2.56)	156 (100)
Total	24,013 (95.29)	997 (3.96)	189 (0.75)	25,199 (100)
Physical Limitations				
None	22,934 (95.51)	908 (3.78)	170 (0.71)	24,012 (100)
1 or more limitation	976 (91.21)	83 (7.76)	11 (1.03)	1,070 (100)
Missing	103 (88.03)	6 (5.13)	8 (6.84)	117 (100)
Total	24,013 (95.29)	997 (3.96)	189 (0.75)	25,199 (100)
Year in School				
Freshman	6,600 (95.56)	249 (3.61)	58 (0.84)	6,907 (100)
Sophomore	6,026 (95.30)	255 (4.03)	42 (0.66)	6,323 (100)
Junior	5,589 (95.03)	241 (4.10)	51 (0.87)	5,881 (100)
Senior	4,577 (95.02)	213 (4.42)	27 (0.56)	4,817 (100)
+4 Years	1,221 (96.07)	39 (3.07)	11 (0.87)	1,271 (100)
Total	24,013 (95.29)	997 (3.96)	189 (0.75)	25,199 (100)
Target Gratifiability				
Sex	-	-	-	-
Female	-	-	-	-
Male	-	-	-	-
Total	-	-	-	-

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
Target Antagonism				
Sexual Orientation				
Heterosexual	21,908 (95.88)	773 (3.38)	169 (0.74)	22,850 (100)
Gay/Lesbian	1,106 (89.70)	121 (9.81)	6 (0.49)	1,233 (100)
Bisexual	470 (88.85)	56 (10.59)	3 (0.57)	529 (100)
Unsure	367 (89.73)	38 (9.29)	4 (0.98)	409 (100)
Missing	162 (91.01)	9 (5.06)	7 (3.93)	178 (100)
Total	24,013 (95.29)	997 (3.96)	189 (0.75)	25,199 (100)
Race				
Non-White	5,612 (94.27)	281 (4.72)	60 (1.01)	5,953 (100)
White, Non-Hispanic	18,401 (95.61)	716 (3.72)	129 (0.67)	19,246 (100)
Total	24,013 (95.29)	997 (3.96)	189 (0.75)	25,199 (100)
International Student Status				
No	22,064 (95.30)	917 (3.96)	170 (0.73)	23,151 (100)
Yes	1,767 (95.26)	72 (3.88)	16 (0.86)	1,855 (100)
Missing	182 (94.03)	8 (4.15)	3 (1.55)	193 (100)
Total	24,013 (95.29)	997 (3.96)	189 (0.75)	25,199 (100)

APPENDIX M
Cross Tabs for Sexual Touch Without Consent for the Total Sample

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
<u>Lifestyle-Routine Activities</u>				
<u>Variables</u>				
Proximity				
Housing				
Off-Campus	31,852 (93.58)	2,073 (6.09)	113 (0.33)	34,038 (100)
On-Campus	37,605 (92.23)	3,024 (7.42)	143 (0.35)	40,772 (100)
Missing	200 (92.17)	16 (7.37)	1 (0.46)	217 (100)
Total	69,657 (92.84)	5,113 (6.81)	257 (0.34)	75,027 (100)
Exposure				
Binge Drinking				
No	44,746 (94.45)	2,483 (5.42)	146 (0.31)	47,394 (100)
Yes	24,650 (90.07)	2,614 (9.55)	105 (0.38)	27,369 (100)
Missing	242 (91.67)	16 (6.06)	6 (2.27)	264 (100)
Total	69,657 (92.84)	5,113 (6.81)	257 (0.34)	75,027 (100)
Alcohol Use				
No	20,579 (96.05)	782 (3.65)	64 (0.30)	21,425 (100)
Yes	48,781 (91.57)	4,310 (8.09)	182 (0.34)	53,273 (100)
Missing	297 (90.27)	21 (6.38)	11 (3.34)	329 (100)
Total	69,657 (92.84)	5,113 (6.81)	257 (0.34)	75,027 (100)
Marijuana Use				
No	57,364 (93.95)	3,510 (5.75)	186 (0.30)	61,060 (100)
Yes	11,887 (88.07)	1,567 (11.61)	43 (0.32)	13,497 (100)
Missing	406 (86.38)	36 (7.66)	28 (5.96)	470 (100)
Total	69,657 (92.84)	5,113 (6.81)	257 (0.34)	75,027 (100)
Serious Drug Use				
Number of Sexual Partners	-	-	-	-
Athletic Participation				
No	45,382 (93.01)	3,248 (6.66)	161 (0.33)	48,791 (100)
Yes	24,068 (92.56)	1,842 (7.08)	92 (0.35)	26,002 (100)
Missing	207 (88.46)	23 (9.83)	4 (1.71)	234 (100)
Total	69,657 (92.84)	5,113 (6.81)	257 (0.34)	75,027 (100)
Fraternity/Sorority Member				
No	61,357 (93.07)	4,351 (6.60)	218 (0.33)	65,926 (100)
Yes	7,683 (91.10)	718 (8.51)	33 (0.39)	8,434 (100)
Missing	617 (92.50)	44 (6.60)	6 (0.90)	667 (100)
Total	69,657 (92.84)	5,113 (6.81)	257 (0.34)	75,027 (100)
Volunteer				
No	42,597 (93.50)	2,807 (6.16)	155 (0.34)	45,559 (100)
Yes	26,341 (91.83)	2,247 (7.83)	98 (0.34)	28 (686)
Missing	719 (91.94)	59 (7.54)	4 (0.51)	782 (100)
Total	69,657 (92.84)	5,113 (6.81)	257 (0.34)	75,027 (100)
Employed				
No	32,356 (93.20)	2,235 (6.44)	124 (0.36)	34,715 (100)
Yes	36,958 (92.52)	2,856 (7.15)	130 (0.33)	39,944 (100)
Missing	343 (93.21)	22 (5.98)	3 (0.82)	368 (100)
Total	69,657 (92.84)	5,113 (6.81)	257 (0.34)	75,027 (100)
Target Attractiveness				
Relationship Status				
Not in a relationship	36,884 (92.08)	3,040 (7.59)	134 (0.33)	40,058 (100)
In a relationship	32,551 (93.74)	2,052 (5.91)	120 (0.35)	34,723 (100)
Missing	222 (90.24)	21 (8.54)	3 (1.22)	246 (100)
Total	69,657 (92.84)	5,113 (6.81)	257 (0.34)	75,027 (100)
Risk-Avoidance Behaviors				
	-	-	-	-

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
Guardianship				
Received Crime Prevention Information				
No	18,039 (94.12)	1,070 (5.58)	56 (0.29)	19,165 (100)
Yes	50,223 (92.42)	3,963 (7.29)	156 (0.29)	54,342 (100)
Missing	1,395 (91.78)	80 (5.26)	45 (2.96)	1,520 (100)
Total	69,657 (92.84)	5,113 (6.81)	257 (0.34)	75,027 (100)
Target Congruence Variables				
Target Vulnerability				
Physical Stature				
Healthy Weight	44,594 (92.55)	3,426 (7.11)	164 (0.34)	48,184 (100)
Underweight	3,474 (92.17)	283 (7.51)	12 (0.32)	3,769 (100)
Overweight	14,083 (93.32)	962 (6.37)	46 (0.30)	15,091 (100)
Obese	6,597 (94.23)	380 (5.43)	24 (0.34)	7,001 (100)
Missing	909 (92.57)	62 (6.31)	11 (1.12)	982 (100)
Total	69,657 (92.84)	5,113 (6.81)	257 (0.34)	75,027 (100)
Psychological Distress				
Eating Disorder	-	-	-	-
No	67,260 (93.23)	4,643 (6.44)	239 (0.33)	72,142 (100)
Yes	1,794 (81.07)	413 (18.66)	6 (0.27)	2,213 (100)
Missing	603 (89.73)	57 (8.48)	12 (1.79)	672 (100)
Total	69,657 (92.84)	5,113 (6.81)	257 (0.34)	75,027 (100)
GPA				
A	25,614 (93.55)	1,693 (6.18)	73 (0.27)	27,380 (100)
B	34,193 (92.63)	2,586 (7.01)	134 (0.36)	36,913 (100)
C	8,269 (91.97)	687 (7.64)	35 (0.39)	8,991 (100)
D/F	493 (88.83)	60 (10.81)	2 (0.36)	555 (100)
N/A	740 (90.80)	68 (8.34)	7 (0.86)	815 (100)
Missing	348 (93.30)	19 (5.09)	6 (1.16)	373 (100)
Total	69,657 (92.84)	5,113 (6.81)	257 (0.34)	75,027 (100)
Physical Limitations				
None	66,919 (92.97)	4,824 (6.70)	236 (0.33)	71,979 (100)
1 or more limitation	2,493 (89.94)	268 (9.67)	11 (0.40)	2,772 (100)
Missing	245 (88.77)	21 (7.61)	10 (3.62)	276 (100)
Total	69,657 (92.84)	5,113 (6.81)	257 (0.34)	75,027 (100)
Year in School				
Freshman	18,940 (92.48)	1,452 (7.09)	87 (0.42)	20,479 (100)
Sophomore	17,605 (92.41)	1,384 (7.26)	62 (0.33)	19,051 (100)
Junior	16,456 (93.07)	1,166 (6.59)	60 (0.34)	17,682 (100)
Senior	13,683 (93.20)	961 (6.55)	37 (0.25)	14,681 (100)
+4 Years	2,973 (94.86)	150 (4.79)	11 (0.35)	3,134 (100)
Total	69,657 (92.84)	5,113 (6.81)	257 (0.34)	75,027 (100)
Target Gratifiability				
Sex				
Female	45,437 (91.19)	4,217 (8.46)	174 (0.35)	49,828 (100)
Male	24,220 (96.11)	896 (3.56)	83 (0.33)	25,199 (100)
Total	69,657 (92.84)	5,113 (6.81)	257 (0.34)	75,027 (100)

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
Target Antagonism				
Sexual Orientation				
Heterosexual	64,000 (93.37)	4,302 (6.28)	242 (0.35)	68,544 (100)
Gay/Lesbian	1,754 (90.83)	174 (9.01)	3 (0.16)	1,931 (100)
Bisexual	2,228 (84.01)	419 (15.80)	5 (0.19)	2,652 (100)
Unsure	1,217 (86.43)	186 (13.21)	5 (0.36)	1,408 (100)
Missing	458 (93.09)	32 (6.50)	2 (0.41)	492 (100)
Total	69,657 (92.84)	5,113 (6.81)	257 (0.34)	75,027 (100)
Race				
Non-White	16,942 (93.06)	1,187 (6.52)	76 (0.42)	18,205 (100)
White, Non-Hispanic	52,715 (92.77)	3,926 (6.91)	181 (0.32)	56,822 (100)
Total	69,657 (92.84)	5,113 (6.81)	257 (0.34)	75,027 (100)
International Student Status				
No	64,206 (92.85)	4,721 (6.83)	226 (0.33)	69,153 (100)
Yes	4,948 (92.87)	355 (6.66)	25 (0.47)	5,328 (100)
Missing	503 (92.12)	37 (6.78)	6 (1.10)	546 (100)
Total	69,657 (92.84)	5,113 (6.81)	257 (0.34)	75,027 (100)

APPENDIX N

Cross Tabs for Sexual Touch Without Consent for the Female Subsample

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
<u>Lifestyle-Routine Activities</u>				
<u>Variables</u>				
Proximity				
Housing				
Off-Campus	20,559 (92.15)	1,671 (7.49)	81 (0.36)	22,311 (100)
On-Campus	24,761 (90.41)	2,533 (9.25)	93 (0.34)	27,387 (100)
Missing	117 (90.00)	13 (10)	0 (0.00)	130 (100)
Total	45,437 (91.19)	4,217 (8.46)	174 (0.35)	49,828 (100)
Exposure				
Binge Drinking				
No	31,430 (93.26)	2,167 (6.43)	105 (0.31)	33,702 (100)
Yes	13,864 (86.80)	2,044 (12.80)	65 (0.41)	15,973 (100)
Missing	143 (93.46)	6 (3.92)	4 (2.61)	153 (100)
Total	45,437 (91.19)	4,217 (8.46)	174 (0.35)	49,828 (100)
Alcohol Use				
No	13,422 (95.11)	644 (4.56)	46 (0.33)	14,112 (100)
Yes	31,823 (89.63)	3,558 (10.02)	122 (0.34)	35,503 (100)
Missing	192 (90.14)	15 (7.04)	6 (2.82)	213 (100)
Total	45,437 (91.19)	4,217 (8.46)	174 (0.35)	49,828 (100)
Marijuana Use				
No	38,432 (92.56)	2,954 (7.11)	137 (0.33)	41,523 (100)
Yes	6,757 (84.28)	1,236 (15.42)	24 (0.30)	8,017 (100)
Missing	248 (86.11)	27 (9.38)	13 (4.51)	288 (100)
Total	45,437 (91.19)	4,217 (8.46)	174 (0.35)	49,828 (100)
Serious Drug Use				
	-	-	-	-
Number of Sexual Partners				
	-	-	-	-
Athletic Participation				
No	32,429 (91.71)	2,811 (7.95)	122 (0.34)	35,372 (100)
Yes	12,875 (89.94)	1,389 (9.70)	51 (0.36)	14,315 (100)
Missing	123 (87.23)	17 (12.06)	1 (0.71)	141 (100)
Total	45,437 (91.19)	4,217 (8.46)	174 (0.35)	49,828 (100)
Fraternity/Sorority Member				
No	39,890 (91.38)	3,614 (8.28)	149 (0.34)	43,653 (100)
Yes	5,145 (89.71)	567 (9.89)	23 (0.40)	5,735 (100)
Missing	402 (91.36)	36 (8.18)	2 (0.45)	440 (100)
Total	45,437 (91.19)	4,217 (8.46)	174 (0.35)	49,828 (100)
Volunteer				
No	26,617 (91.84)	2,264 (7.81)	100 (0.35)	28,981 (100)
Yes	18,376 (90.27)	1,908 (9.37)	72 (0.35)	20,356 (100)
Missing	444 (90.43)	45 (9.16)	2 (0.41)	491 (100)
Total	45,437 (91.19)	4,217 (8.46)	174 (0.35)	49,828 (100)
Employed				
No	20,013 (91.35)	1,819 (8.30)	76 (0.35)	21,908 (100)
Yes	25,209 (91.05)	2,382 (8.60)	97 (0.35)	27,688 (100)
Missing	215 (92.67)	16 (6.90)	1 (0.43)	232 (100)
Total	45,437 (91.19)	4,217 (8.46)	174 (0.35)	49,828 (100)
Target Attractiveness				
Relationship Status				
Not in a relationship	22,846 (89.87)	2,489 (9.79)	85 (0.33)	25,420 (100)
In a relationship	22,473 (92.58)	1,714 (7.06)	88 (0.36)	24,275 (100)
Missing	118 (88.72)	12 (10.53)	1 (0.75)	133 (100)
Total	45,437 (91.19)	4,217 (8.46)	174 (0.35)	49,828 (100)
Risk-Avoidance Behaviors				
	-	-	-	-

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
Guardianship				
Received Crime Prevention Information				
No	11,761 (92.88)	864 (6.82)	38 (0.30)	12,663 (100)
Yes	32,747 (90.62)	3,282 (9.08)	109 (0.30)	36,138 (100)
Missing	929 (90.46)	71 (6.91)	27 (2.36)	1,027 (100)
Total	45,437 (91.19)	4,217 (8.46)	174 (0.35)	49,828 (100)
Target Congruence Variables				
Target Vulnerability				
Physical Stature				
Healthy Weight	30,011 (90.87)	2,900 (8.78)	117 (0.35)	33,028 (100)
Underweight	2,631 (91.04)	250 (8.65)	9 (0.31)	2,890 (100)
Overweight	8,050 (91.51)	718 (8.16)	29 (0.33)	8,797 (100)
Obese	4,108 (92.92)	300 (6.79)	13 (0.29)	4,421 (100)
Missing	637 (92.05)	49 (7.08)	6 (0.87)	692 (100)
Total	45,437 (91.19)	4,217 (8.46)	174 (0.35)	49,828 (100)
Psychological Distress				
Eating Disorder				
No	43,475 (91.64)	3,802 (8.01)	162 (0.34)	47,439 (100)
Yes	1,610 (80.95)	374 (18.80)	5 (0.25)	1,989 (100)
Missing	352 (88.00)	41 (10.25)	7 (1.75)	400 (100)
Total	45,437 (91.19)	4,217 (8.46)	174 (0.35)	49,828 (100)
GPA				
A	12,406 (92.05)	1,450 (7.67)	54 (0.29)	18,910 (100)
B	22,276 (90.96)	2,116 (8.64)	98 (0.40)	24,490 (100)
C	4,805 (89.65)	541 (10.09)	14 (0.26)	5,360 (100)
D/F	263 (85.95)	42 (13.73)	1 (0.33)	306 (100)
N/A	485 (88.99)	55 (10.09)	5 (0.92)	545 (100)
Missing	202 (93.09)	13 (5.99)	2 (0.92)	217 (100)
Total	45,437 (91.19)	4,217 (8.46)	174 (0.35)	49,828 (100)
Physical Limitations				
None	43,796 (91.30)	4,008 (8.36)	163 (0.34)	47,967 (100)
1 or more limitation	1,504 (88.37)	193 (11.34)	5 (0.29)	1,702 (100)
Missing	137 (86.16)	16 (10.06)	6 (3.77)	159 (100)
Total	45,437 (91.19)	4,217 (8.46)	174 (0.35)	49,828 (100)
Year in School				
Freshman	12,284 (90.51)	1,229 (9.06)	59 (0.43)	13,572 (100)
Sophomore	11,540 (90.67)	1,146 (9.00)	42 (0.33)	12,728 (100)
Junior	10,810 (91.60)	951 (8.06)	40 (0.34)	11,801 (100)
Senior	9,063 (93.40)	775 (7.86)	26 (0.26)	9,864 (100)
+4 Years	1,740 (93.40)	116 (6.23)	7 (0.38)	1,863 (100)
Total	45,437 (91.19)	4,217 (8.46)	174 (0.35)	49,828 (100)
Target Gratifiability				
Sex				
Female	-	-	-	-
Male	-	-	-	-
Total	-	-	-	-

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
Target Antagonism				
Sexual Orientation				
Heterosexual	41,931 (91.76)	3,598 (7.87)	165 (0.36)	45,694 (100)
Gay/Lesbian	629 (90.11)	68 (9.74)	1 (0.14)	698 (100)
Bisexual	1,748 (82.41)	370 (17.43)	5 (0.24)	2,123 (100)
Unsure	839 (83.98)	157 (15.72)	3 (0.30)	999 (100)
Missing	290 (92.36)	24 (7.64)	0 (0.00)	314 (100)
Total	45,437 (91.19)	4,217 (8.46)	174 (0.35)	49,828 (100)
Race				
Non-White	11,261 (91.91)	942 (7.69)	49 (0.40)	12,252 (100)
White, Non-Hispanic	34,176 (90.95)	3,275 (8.72)	125 (0.33)	37,576 (100)
Total	45,437 (91.19)	4,217 (8.46)	174 (0.35)	49,828 (100)
International Student Status				
No	41,951 (91.19)	3,896 (8.47)	155 (0.34)	46,002 (100)
Yes	3,169 (91.25)	289 (8.32)	15 (0.43)	3,473 (100)
Missing	317 (89.80)	32 (9.07)	4 (1.13)	353 (100)
Total	45,437 (91.19)	4,217 (8.46)	174 (0.35)	49,828 (100)

APPENDIX O

Cross Tabs for Sexual Touch Without Consent for the Male Subsample

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
<u>Lifestyle-Routine Activities</u>				
<u>Variables</u>				
Proximity				
Housing				
Off-Campus	11,293 (96.30)	402 (3.43)	32 (0.27)	11,727 (100)
On-Campus	12,844 (95.96)	491 (3.67)	50 (0.37)	13,385 (100)
Missing	83 (95.40)	3 (3.45)	1 (1.15)	87 (100)
Total	24,220 (96.11)	896 (3.56)	83 (0.33)	25,199 (100)
Exposure				
Binge Drinking				
No	13,335 (97.39)	316 (2.31)	41 (0.30)	13,692 (100)
Yes	10,786 (94.65)	570 (5.00)	40 (0.35)	11,396 (100)
Missing	99 (89.19)	10 (9.01)	2 (1.80)	111 (100)
Total	24,220 (96.11)	896 (3.56)	83 (0.33)	25,199 (100)
Alcohol Use				
No	7,157 (97.87)	138 (1.89)	18 (0.25)	7,313 (100)
Yes	16,958 (95.43)	752 (4.23)	60 (0.34)	17,770 (100)
Missing	105 (90.52)	6 (5.17)	5 (4.31)	116 (100)
Total	24,220 (96.11)	896 (3.56)	83 (0.33)	25,199 (100)
Marijuana Use				
No	18,932 (96.90)	556 (2.85)	49 (0.25)	19,537 (100)
Yes	5,130 (93.61)	331 (6.04)	19 (0.35)	5,480 (100)
Missing	158 (86.81)	9 (4.95)	15 (8.24)	182 (100)
Total	24,220 (96.11)	896 (3.56)	83 (0.33)	25,199 (100)
Serious Drug Use				
Number of Sexual Partners	-	-	-	-
Athletic Participation				
No	12,943 (96.45)	437 (3.26)	39 (0.29)	13,419 (100)
Yes	11,193 (95.77)	453 (3.88)	41 (0.35)	11,687 (100)
Missing	84 (90.32)	6 (6.45)	3 (3.23)	93 (100)
Total	24,220 (96.11)	896 (3.56)	83 (0.33)	25,199 (100)
Fraternity/Sorority Member				
No	21,467 (96.38)	737 (3.31)	69 (0.31)	22,273 (100)
Yes	2,538 (94.03)	151 (5.95)	10 (0.37)	2,699 (100)
Missing	215 (94.71)	8 (3.52)	4 (1.76)	227 (100)
Total	24,220 (96.11)	896 (3.56)	83 (0.33)	25,199 (100)
Volunteer				
No	15,980 (96.39)	543 (3.28)	55 (0.33)	16,578 (100)
Yes	7,965 (95.62)	339 (4.07)	26 (0.31)	8,330 (100)
Missing	275 (94.50)	14 (4.81)	2 (0.69)	291 (100)
Total	24,220 (96.11)	896 (3.56)	83 (0.33)	25,199 (100)
Employed				
No	12,343 (96.38)	416 (3.25)	48 (0.37)	12,807 (100)
Yes	11,749 (95.86)	474 (3.87)	33 (0.27)	12,256 (100)
Missing	128 (94.12)	6 (4.41)	2 (1.47)	136 (100)
Total	24,220 (96.11)	896 (3.56)	83 (0.33)	25,199 (100)
Target Attractiveness				
Relationship Status				
Not in a relationship	14,038 (95.90)	551 (3.76)	49 (0.33)	14,638 (100)
In a relationship	10,078 (96.46)	338 (3.24)	32 (0.31)	10,448 (100)
Missing	104 (92.04)	7 (6.19)	2 (1.77)	113 (100)
Total	24,220 (96.11)	896 (3.56)	83 (0.33)	25,199 (100)
Risk-Avoidance Behaviors				
	-	-	-	-

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
Guardianship				
Received Crime Prevention Information				
No	6,278 (96.55)	206 (7.13)	18 (0.28)	6,502 (100)
Yes	17,476 (96.00)	681 (3.74)	47 (0.26)	18,204 (100)
Missing	466 (94.52)	9 (1.83)	18 (3.65)	493 (100)
Total	24,220 (96.11)	896 (3.56)	83 (0.33)	25,199 (100)
Target Congruence Variables				
Target Vulnerability				
Physical Stature				
Healthy Weight	14,583 (96.22)	526 (3.47)	47 (0.31)	15,156 (100)
Underweight	843 (95.90)	33 (3.75)	3 (0.34)	879 (100)
Overweight	6,033 (95.85)	244 (3.88)	17 (0.27)	6,924 (100)
Obese	2,489 (96.47)	80 (3.10)	11 (0.43)	2,580 (100)
Missing	272 (93.79)	13 (4.48)	5 (1.72)	290 (100)
Total	24,220 (96.11)	896 (3.56)	83 (0.33)	25,199 (100)
Psychological Distress				
Eating Disorder	-	-	-	-
No	23,785 (96.28)	841 (3.40)	77 (0.31)	24,703 (100)
Yes	184 (82.14)	39 (17.41)	1 (0.45)	224 (100)
Missing	251 (92.28)	16 (5.88)	5 (1.84)	272 (100)
Total	24,220 (96.11)	896 (3.56)	83 (0.33)	25,199 (100)
GPA				
A	8,208 (96.91)	243 (2.87)	19 (0.22)	8,470 (100)
B	11,917 (95.93)	470 (3.78)	36 (0.29)	12,423 (100)
C	3,464 (95.40)	146 (4.02)	21 (0.58)	3,631 (100)
D/F	230 (92.37)	18 (7.23)	1 (0.40)	249 (100)
N/A	255 (94.44)	13 (4.81)	2 (0.74)	270 (100)
Missing	146 (93.59)	6 (3.85)	4 (2.56)	156 (100)
Total	24,220 (96.11)	896 (3.56)	83 (0.33)	25,199 (100)
Physical Limitations				
None	23,123 (96.30)	816 (3.40)	73 (0.30)	24,012 (100)
1 or more limitation	989 (92.43)	75 (7.01)	6 (0.56)	1,070 (100)
Missing	108 (92.31)	5 (4.27)	4 (3.42)	117 (100)
Total	24,220 (96.11)	896 (3.56)	83 (0.33)	25,199 (100)
Year in School				
Freshman	6,656 (96.37)	233 (3.23)	28 (0.41)	6,907 (100)
Sophomore	6,065 (95.92)	238 (3.76)	20 (0.32)	6,323 (100)
Junior	5,646 (96.00)	215 (3.66)	20 (0.34)	5,881 (100)
Senior	4,620 (95.91)	186 (3.86)	11 (0.23)	4,817 (100)
+4 Years	1,233 (97.01)	34 (2.68)	4 (0.31)	1,271 (100)
Total	24,220 (96.11)	896 (3.56)	83 (0.33)	25,199 (100)
Target Gratifiability				
Sex				
Female	-	-	-	-
Male	-	-	-	-
Total	-	-	-	-

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
Target Antagonism				
Sexual Orientation				
Heterosexual	22,069 (96.58)	704 (3.08)	77 (0.34)	22,850 (100)
Gay/Lesbian	1,125 (91.24)	106 (8.60)	2 (0.16)	1,233 (100)
Bisexual	480 (90.74)	49 (9.26)	0 (0.00)	529 (100)
Unsure	378 (92.42)	29 (7.09)	2 (0.49)	409 (100)
Missing	168 (94.38)	8 (4.49)	2 (1.12)	178 (100)
Total	24,220 (96.11)	896 (3.56)	83 (0.33)	25,199 (100)
Race				
Non-White	5,681 (95.43)	245 (4.12)	27 (0.45)	5,953 (100)
White, Non-Hispanic	18,539 (96.33)	651 (3.38)	56 (0.29)	19,246 (100)
Total	24,220 (96.11)	896 (3.56)	83 (0.33)	25,199 (100)
International Student Status				
No	22,255 (96.13)	825 (3.56)	71 (0.31)	23,151 (100)
Yes	1,779 (95.90)	66 (3.56)	10 (0.54)	1,855 (100)
Missing	186 (96.37)	5 (2.59)	2 (1.04)	193 (100)
Total	24,220 (96.11)	896 (3.56)	83 (0.33)	25,199 (100)

APPENDIX P
Cross Tabs for Rape for the Total Sample

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
<u>Lifestyle-Routine Activities</u>				
<u>Variables</u>				
Proximity				
Housing				
Off-Campus	32,916 (96.70)	901 (2.65)	221 (0.65)	34,038 (100)
On-Campus	39,171 (96.07)	1,340 (3.29)	261 (0.64)	40,772 (100)
Missing	207 (95.39)	8 (3.69)	2 (0.92)	217 (100)
Total	72,294 (96.36)	2,249 (3.00)	484 (0.65)	75,027 (100)
Exposure				
Binge Drinking				
No	46,109 (97.29)	1,015 (2.14)	270 (0.57)	47,394 (100)
Yes	25,938 (94.77)	1,226 (4.48)	205 (0.75)	27,369 (100)
Missing	247 (93.56)	8 (3.03)	9 (3.41)	264 (100)
Total	72,294 (96.36)	2,249 (3.00)	484 (0.65)	75,027 (100)
Alcohol Use				
No	20,991 (97.97)	315 (1.47)	119 (0.56)	21,425 (100)
Yes	51,001 (95.74)	1,922 (3.61)	350 (0.66)	53,273 (100)
Missing	302 (91.79)	12 (3.65)	15 (4.56)	329 (100)
Total	72,294 (96.36)	2,249 (3.00)	484 (0.65)	75,027 (100)
Marijuana Use				
No	59,226 (97.00)	1,478 (2.42)	356 (0.58)	61,060 (100)
Yes	12,653 (93.75)	754 (5.59)	90 (0.67)	13,497 (100)
Missing	415 (88.30)	17 (3.62)	38 (8.09)	470 (100)
Total	72,294 (96.36)	2,249 (3.00)	484 (0.65)	75,027 (100)
Serious Drug Use				
Number of Sexual Partners	-	-	-	-
Athletic Participation				
No	47,054 (96.44)	1,427 (2.92)	310 (0.64)	48,791 (100)
Yes	25,023 (96.23)	810 (3.12)	169 (0.65)	26,002 (100)
Missing	217 (92.74)	12 (5.13)	5 (2.14)	234 (100)
Total	72,294 (96.36)	2,249 (3.00)	484 (0.65)	75,027 (100)
Fraternity/Sorority Member				
No	63,626 (96.51)	1,879 (2.85)	421 (0.64)	65,926 (100)
Yes	8,030 (95.21)	350 (4.15)	54 (0.64)	8,434 (100)
Missing	638 (95.65)	20 (3.00)	9 (1.35)	667 (100)
Total	72,294 (96.36)	2,249 (3.00)	484 (0.65)	75,027 (100)
Volunteer				
No	43,997 (96.57)	1,253 (2.75)	309 (0.68)	45,559 (100)
Yes	27,549 (96.04)	970 (3.38)	167 (0.58)	28,686 (100)
Missing	748 (95.65)	26 (3.32)	8 (1.02)	782 (100)
Total	72,294 (96.36)	2,249 (3.00)	484 (0.65)	75,027 (100)
Employed				
No	33,508 (96.52)	992 (2.86)	215 (0.62)	34,715 (100)
Yes	38,433 (96.22)	1,249 (3.13)	262 (0.66)	39,944 (100)
Missing	353 (95.92)	8 (2.17)	7 (1.90)	368 (100)
Total	72,294 (96.36)	2,249 (3.00)	484 (0.65)	75,027 (100)
Target Attractiveness				
Relationship Status				
Not in a relationship	38,457 (96.00)	1,346 (3.36)	255 (0.64)	40,058 (100)
In a relationship	33,601 (96.77)	896 (2.58)	226 (0.65)	34,723 (100)
Missing	236 (95.93)	7 (2.85)	3 (1.22)	246 (100)
Total	72,294 (96.36)	2,249 (3.00)	484 (0.65)	75,027 (100)
Risk-Avoidance Behaviors				
	-	-	-	-

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
Guardianship				
Received Crime Prevention Information				
No	18,575 (96.92)	481 (2.51)	109 (0.57)	19,165 (100)
Yes	52,290 (96.22)	1,732 (3.19)	320 (0.59)	54,342 (100)
Missing	1,429 (94.01)	36 (2.37)	55 (3.62)	1,520 (100)
Total	72,294 (96.36)	2,249 (3.00)	484 (0.65)	75,027 (100)
Target Congruence Variables				
Target Vulnerability				
Physical Stature				
Healthy Weight	46,364 (96.22)	1,519 (3.15)	301 (0.62)	48,184 (100)
Underweight	3,622 (96.10)	121 (3.21)	26 (0.69)	3,769 (100)
Overweight	14,591 (96.69)	401 (2.66)	99 (0.66)	15,091 (100)
Obese	6,776 (96.79)	185 (2.64)	40 (0.57)	7,001 (100)
Missing	941 (95.82)	23 (2.34)	18 (1.83)	982 (100)
Total	72,294 (96.36)	2,249 (3.00)	484 (0.65)	75,027 (100)
Psychological Distress				
Eating Disorder	-	-	-	-
No	69,698 (96.61)	2,000 (2.77)	444 (0.62)	72,142 (100)
Yes	1,961 (88.61)	231 (10.44)	21 (0.95)	2,213 (100)
Missing	635 (94.49)	18 (2.68)	19 (2.83)	672 (100)
Total	72,294 (96.36)	2,249 (3.00)	484 (0.65)	75,027 (100)
GPA				
A	26,534 (96.91)	707 (2.58)	139 (0.51)	27,380 (100)
B	35,510 (96.20)	1,141 (3.09)	262 (0.71)	36,913 (100)
C	8,604 (95.70)	318 (3.54)	69 (0.77)	8,991 (100)
D/F	520 (93.69)	34 (6.13)	1 (0.18)	555 (100)
N/A	769 (94.36)	39 (4.79)	7 (0.86)	815 (100)
Missing	357 (95.71)	10 (2.68)	6 (1.61)	373 (100)
Total	72,294 (96.36)	2,249 (3.00)	484 (0.65)	75,027 (100)
Physical Limitations				
None	69,407 (96.43)	2,120 (2.95)	452 (0.63)	71,979 (100)
1 or more limitation	2,634 (95.02)	121 (4.37)	17 (0.61)	2,772 (100)
Missing	253 (91.67)	8 (2.90)	15 (5.43)	276 (100)
Total	72,294 (96.36)	2,249 (3.00)	484 (0.65)	75,027 (100)
Year in School				
Freshman	19,676 (96.08)	669 (3.27)	134 (0.65)	20,479 (100)
Sophomore	18,312 (96.12)	609 (3.20)	130 (0.68)	19,051 (100)
Junior	17,064 (96.50)	509 (2.88)	109 (0.62)	17,682 (100)
Senior	14,201 (96.73)	393 (2.68)	87 (0.59)	12,681 (100)
+4 Years	3,041 (97.03)	69 (2.20)	24 (0.77)	3,134 (100)
Total	72,294 (96.36)	2,249 (3.00)	484 (0.65)	75,027 (100)
Target Gratifiability				
Sex				
Female	47,541 (95.41)	1,965 (3.94)	322 (0.65)	49,828 (100)
Male	24,753 (98.23)	284 (1.13)	162 (0.64)	25,199 (100)
Total	72,294 (96.36)	2,249 (3.00)	484 (0.65)	75,027 (100)

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
Target Antagonism				
Sexual Orientation				
Heterosexual	66,223 (96.61)	1,885 (2.75)	436 (0.64)	68,544 (100)
Gay/Lesbian	1,845 (95.55)	74 (3.83)	12 (0.62)	1,931 (100)
Bisexual	2,444 (92.16)	189 (7.13)	19 (0.72)	2,652 (100)
Unsure	1,308 (92.90)	89 (6.32)	11 (0.78)	1,408 (100)
Missing	474 (96.34)	12 (2.44)	6 (1.22)	492 (100)
Total	72,294 (96.36)	2,249 (3.00)	484 (0.65)	75,027 (100)
Race				
Non-White	17,539 (96.34)	527 (2.89)	139 (0.76)	18,205 (100)
White, Non-Hispanic	54,755 (96.36)	1,722 (3.03)	345 (0.61)	56,822 (100)
Total	72,294 (96.36)	2,249 (3.00)	484 (0.65)	75,027 (100)
International Student Status				
No	66,640 (96.37)	2,072 (3.00)	441 (0.64)	69,153 (100)
Yes	5,133 (96.34)	158 (2.97)	37 (0.69)	5,328 (100)
Missing	521 (95.42)	19 (3.48)	6 (1.10)	546 (100)
Total	72,294 (96.36)	2,249 (3.00)	484 (0.65)	75,027 (100)

APPENDIX Q
Cross Tabs for Rape for the Female Subsample

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
<u>Lifestyle-Routine Activities</u>				
<u>Variables</u>				
Proximity				
Housing				
Off-Campus	21,387 (95.86)	777 (3.48)	147 (0.66)	22,311 (100)
On-Campus	26,031 (95.05)	1,181 (4.31)	175 (0.64)	27,387 (100)
Missing	123 (94.62)	7 (5.38)	0 (0.00)	130 (100)
Total	47,541 (95.41)	1,965 (3.94)	322 (0.65)	49,828 (100)
Exposure				
Binge Drinking				
No	32,581 (96.67)	924 (2.74)	197 (0.58)	33,702 (100)
Yes	14,816 (92.76)	1,036 (6.49)	121 (0.76)	15,973 (100)
Missing	144 (94.12)	5 (3.27)	4 (2.61)	153 (100)
Total	47,541 (95.41)	1,965 (3.94)	322 (0.65)	49,828 (100)
Alcohol Use				
No	13,762 (97.52)	270 (1.91)	80 (0.57)	14,112 (100)
Yes	33,582 (94.59)	1,687 (4.75)	234 (0.66)	35,503 (100)
Missing	197 (92.49)	8 (3.76)	8 (3.76)	213 (100)
Total	47,541 (95.41)	1,965 (3.94)	322 (0.65)	49,828 (100)
Marijuana Use				
No	39,962 (96.24)	1,310 (3.15)	251 (0.60)	41,523 (100)
Yes	7,323 (91.34)	642 (8.01)	52 (0.65)	8,017 (100)
Missing	256 (88.89)	13 (4.51)	19 (6.60)	288 (100)
Total	47,541 (95.41)	1,965 (3.94)	322 (0.65)	49,828 (100)
Serious Drug Use				
Number of Sexual Partners	-	-	-	-
Athletic Participation				
No	33,858 (95.72)	1,287 (3.64)	227 (0.64)	35,372 (100)
Yes	13,554 (94.68)	667 (4.66)	94 (0.66)	14,315 (100)
Missing	129 (91.49)	11 (7.80)	1 (0.71)	141 (100)
Total	47,541 (95.41)	1,965 (3.94)	322 (0.65)	49,828 (100)
Fraternity/Sorority Member				
No	41,719 (95.57)	1,651 (3.78)	283 (0.65)	43,653 (100)
Yes	5,404 (94.23)	297 (5.18)	34 (0.59)	5,735 (100)
Missing	418 (95.00)	17 (3.86)	5 (1.14)	440 (100)
Total	47,541 (95.41)	1,965 (3.94)	322 (0.65)	49,828 (100)
Volunteer				
No	27,708 (95.61)	1,083 (3.74)	190 (0.66)	28,981 (100)
Yes	19,371 (95.16)	858 (4.21)	127 (0.62)	20,356 (100)
Missing	462 (94.09)	24 (4.89)	5 (1.02)	491 (100)
Total	47,541 (95.41)	1,965 (3.94)	322 (0.65)	49,828 (100)
Employed				
No	20,914 (95.46)	868 (3.96)	126 (0.58)	21,908 (100)
Yes	26,407 (95.37)	1,090 (3.94)	191 (0.69)	27,688 (100)
Missing	220 (94.83)	7 (3.02)	5 (2.16)	232 (100)
Total	47,541 (95.41)	1,965 (3.94)	322 (0.65)	49,828 (100)
Target Attractiveness				
Relationship Status				
Not in a relationship	24,100 (94.81)	1,167 (4.59)	153 (0.60)	25,420 (100)
In a relationship	23,315 (96.05)	792 (3.26)	168 (0.69)	24,275 (100)
Missing	126 (94.74)	6 (4.51)	1 (0.75)	133 (100)
Total	47,541 (95.41)	1,965 (3.94)	322 (0.65)	49,828 (100)
Risk-Avoidance Behaviors				
	-	-	-	-

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
Guardianship				
Received Crime Prevention Information				
No	12,170 (96.11)	416 (3.29)	77 (0.61)	12,663 (100)
Yes	34,404 (95.20)	1,517 (4.20)	217 (0.60)	36,138 (100)
Missing	967 (94.16)	32 (3.12)	28 (2.73)	1,027 (100)
Total	47,541 (95.41)	1,965 (3.94)	322 (0.65)	49,828 (100)
Target Congruence Variables				
Target Vulnerability				
Physical Stature				
Healthy Weight	31,465 (95.27)	1,353 (4.10)	210 (0.64)	33,028 (100)
Underweight	2,760 (95.50)	110 (3.81)	20 (0.69)	2,890 (100)
Overweight	8,408 (95.58)	330 (3.75)	59 (0.67)	8,797 (100)
Obese	4,243 (95.97)	155 (3.51)	23 (0.52)	4,421 (100)
Missing	665 (96.10)	17 (2.46)	10 (1.45)	692 (100)
Total	47,541 (95.41)	1,965 (3.94)	322 (0.65)	49,828 (100)
Psychological Distress				
Eating Disorder				
No	45,400 (95.70)	1,747 (3.68)	292 (0.62)	47,439 (100)
Yes	1,768 (88.89)	203 (10.21)	18 (0.90)	1,989 (100)
Missing	373 (93.25)	15 (3.75)	12 (3.00)	400 (100)
Total	47,541 (95.41)	1,965 (3.94)	322 (0.65)	49,828 (100)
GPA				
A	18,168 (96.08)	632 (3.34)	110 (0.58)	18,910 (100)
B	23,320 (95.22)	1,000 (4.08)	170 (0.69)	24,490 (100)
C	5,060 (94.40)	266 (4.96)	34 (0.63)	5,360 (100)
D/F	278 (90.85)	28 (9.15)	0 (0.00)	306 (100)
N/A	508 (93.21)	31 (5.69)	6 (1.10)	545 (100)
Missing	207 (95.39)	8 (3.69)	2 (0.92)	217 (100)
Total	47,541 (95.41)	1,965 (3.94)	322 (0.65)	49,828 (100)
Physical Limitations				
None	45,786 (95.45)	1,874 (3.91)	307 (0.64)	47,967 (100)
1 or more limitation	1,610 (94.59)	84 (4.94)	8 (0.47)	1,702 (100)
Missing	145 (91.19)	7 (4.40)	7 (4.40)	159 (100)
Total	47,541 (95.41)	1,965 (3.94)	322 (0.65)	49,828 (100)
Year in School				
Freshman	12,889 (94.97)	601 (4.43)	82 (0.60)	13,572 (100)
Sophomore	12,090 (94.99)	545 (4.28)	93 (0.73)	12,728 (100)
Junior	11,300 (95.75)	434 (3.68)	67 (0.57)	11,801 (100)
Senior	9,471 (96.02)	328 (3.33)	65 (0.66)	9,864 (100)
+4 Years	1,791 (96.14)	57 (3.06)	15 (0.81)	1,863 (100)
Total	47,541 (95.41)	1,965 (3.94)	322 (0.65)	49,828 (100)
Target Gratifiability				
Sex				
Female	-	-	-	-
Male	-	-	-	-
Total	-	-	-	-

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
Target Antagonism				
Sexual Orientation				
Heterosexual	43,71 (95.67)	1,688 (3.69)	292 (0.64)	45,694 (100)
Gay/Lesbian	663 (94.99)	28 (4.01)	7 (1.00)	698 (100)
Bisexual	1,938 (91.29)	169 (7.69)	16 (0.75)	2,123 (100)
Unsure	922 (92.29)	70 (7.01)	7 (0.70)	999 (100)
Missing	304 (96.82)	10 (3.18)	0 (0.00)	314 (100)
Total	47,541 (95.41)	1,965 (3.94)	322 (0.65)	49,828 (100)
Race				
Non-White	11,730 (95.74)	433 (3.53)	89 (0.73)	12,252 (100)
White, Non-Hispanic	35,811 (95.30)	1,532 (4.08)	233 (0.62)	37,576 (100)
Total	47,541 (95.41)	1,965 (3.94)	322 (0.65)	49,828 (100)
International Student Status				
No	43,888 (95.40)	1,819 (3.95)	295 (0.64)	46,002 (100)
Yes	3,318 (95.54)	132 (3.80)	23 (0.66)	3,473 (100)
Missing	335 (94.90)	14 (3.97)	4 (1.13)	353 (100)
Total	47,541 (95.41)	1,965 (3.94)	322 (0.65)	49,828 (100)

APPENDIX R
Cross Tabs for Rape for the Male Subsample

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
<u>Lifestyle-Routine Activities</u>				
<u>Variables</u>				
Proximity				
Housing				
Off-Campus	11,529 (98.31)	124 (1.06)	74 (0.63)	11,727 (100)
On-Campus	13,140 (98.17)	159 (1.19)	86 (0.64)	13,385 (100)
Missing	84 (96.55)	1 (1.15)	2 (2.30)	87 (100)
Total	24,753 (98.23)	284 (1.13)	162 (0.64)	25,199 (100)
Exposure				
Binge Drinking				
No	13,528 (98.80)	91 (0.66)	73 (0.53)	13,692 (100)
Yes	11,122 (97.60)	190 (1.67)	84 (0.74)	11,396 (100)
Missing	103 (92.79)	3 (2.70)	5 (4.50)	111 (100)
Total	24,753 (98.23)	284 (1.13)	162 (0.64)	25,199 (100)
Alcohol Use				
No	7,229 (98.85)	45 (0.62)	39 (0.53)	7,313 (100)
Yes	17,419 (98.02)	235 (1.32)	116 (0.65)	17,770 (100)
Missing	105 (90.52)	4 (3.45)	7 (6.03)	116 (100)
Total	24,753 (98.23)	284 (1.13)	162 (0.64)	25,199 (100)
Marijuana Use				
No	19,264 (98.60)	168 (0.86)	105 (0.54)	19,537 (100)
Yes	5,330 (97.26)	112 (2.04)	38 (0.69)	5,480 (100)
Missing	159 (87.36)	4 (2.20)	19 (10.44)	182 (100)
Total	24,753 (98.23)	284 (1.13)	162 (0.64)	25,199 (100)
Serious Drug Use				
Number of Sexual Partners	-	-	-	-
Athletic Participation				
No	13,196 (98.34)	140 (1.04)	83 (0.62)	13,419 (100)
Yes	11,469 (98.13)	143 (1.22)	75 (0.64)	11,687 (100)
Missing	88 (94.62)	1 (1.08)	4 (4.30)	93 (100)
Total	24,753 (98.23)	284 (1.13)	162 (0.64)	25,199 (100)
Fraternity/Sorority Member				
No	21,907 (98.36)	228 (1.02)	138 (0.62)	22,273 (100)
Yes	2,626 (97.30)	53 (1.96)	20 (0.74)	2,699 (100)
Missing	220 (96.92)	3 (1.32)	4 (1.76)	227 (100)
Total	24,753 (98.23)	284 (1.13)	162 (0.64)	25,199 (100)
Volunteer				
No	16,289 (98.26)	170 (1.03)	119 (0.72)	16,578 (100)
Yes	8,178 (98.18)	112 (1.34)	40 (0.48)	8,330 (100)
Missing	286 (98.28)	2 (0.69)	3 (1.03)	291 (100)
Total	24,753 (98.23)	284 (1.13)	162 (0.64)	25,199 (100)
Employed				
No	12,594 (98.34)	124 (0.97)	89 (0.69)	12,807 (100)
Yes	12,026 (98.12)	159 (1.30)	71 (0.58)	12,256 (100)
Missing	133 (97.79)	1 (0.74)	2 (1.47)	136 (100)
Total	24,753 (98.23)	284 (1.13)	162 (0.64)	25,199 (100)
Target Attractiveness				
Relationship Status				
Not in a relationship	14,357 (98.08)	179 (1.22)	102 (0.70)	14,638 (100)
In a relationship	10,286 (98.45)	104 (1.00)	58 (0.56)	10,448 (100)
Missing	110 (97.35)	1 (0.88)	2 (1.77)	113 (100)
Total	24,753 (98.23)	284 (1.13)	162 (0.64)	25,199 (100)
Risk-Avoidance Behaviors				
	-	-	-	-

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
Guardianship				
Received Crime Prevention Information				
No	6,405 (98.51)	65 (1.00)	32 (0.49)	6,502 (100)
Yes	17,886 (98.25)	215 (1.18)	103 (0.57)	18,204 (100)
Missing	462 (93.71)	4 (0.81)	27 (5.48)	493 (100)
Total	24,753 (98.23)	284 (1.13)	162 (0.64)	25,199 (100)
Target Congruence Variables				
Target Vulnerability				
Physical Stature				
Healthy Weight	14,899 (98.30)	166 (1.10)	91 (0.60)	15,156 (100)
Underweight	862 (98.08)	11 (1.25)	6 (0.68)	879 (100)
Overweight	6,183 (98.24)	71 (1.13)	40 (0.64)	6,294 (100)
Obese	2,533 (98.18)	30 (1.16)	17 (0.66)	2,580 (100)
Missing	276 (95.17)	6 (2.07)	8 (2.76)	290 (100)
Total	24,753 (98.23)	284 (1.13)	162 (0.64)	25,199 (100)
Psychological Distress				
Eating Disorder	-	-	-	-
No	24,298 (98.36)	253 (1.02)	152 (0.62)	24,703 (100)
Yes	193 (86.16)	28 (12.50)	3 (1.34)	224 (100)
Missing	262 (96.32)	3 (1.10)	7 (2.57)	272 (100)
Total	24,753 (98.23)	284 (1.13)	162 (0.64)	25,199 (100)
GPA				
A	8,366 (98.77)	75 (0.89)	29 (0.34)	8,470 (100)
B	12,190 (98.12)	141 (1.13)	92 (0.74)	12,423 (100)
C	3,544 (97.60)	52 (1.43)	35 (0.96)	3,631 (100)
D/F	242 (97.19)	6 (2.41)	1 (0.40)	249 (100)
N/A	261 (96.67)	8 (2.96)	1 (0.37)	270 (100)
Missing	150 (96.15)	2 (1.28)	4 (2.56)	156 (100)
Total	24,753 (98.23)	284 (1.13)	162 (0.64)	25,199 (100)
Physical Limitations				
None	23,621 (98.37)	246 (1.02)	145 (0.60)	24,012 (100)
1 or more limitation	1,024 (95.70)	37 (3.46)	9 (0.84)	1,070 (100)
Missing	108 (92.31)	1 (0.85)	8 (6.84)	117 (100)
Total	24,753 (98.23)	284 (1.13)	162 (0.64)	25,199 (100)
Year in School				
Freshman	6,787 (98.26)	68 (0.98)	52 (0.75)	6,907 (100)
Sophomore	6,222 (98.40)	64 (1.01)	37 (0.59)	6,323 (100)
Junior	5,764 (98.01)	75 (1.28)	42 (0.71)	5,881 (100)
Senior	4,730 (98.19)	65 (1.35)	22 (0.46)	4,817 (100)
+4 Years	1,250 (98.35)	12 (0.94)	9 (0.71)	1,271 (100)
Total	24,753 (98.23)	284 (1.13)	162 (0.64)	25,199 (100)
Target Gratifiability				
Sex				
Female	-	-	-	-
Male	-	-	-	-
Total	-	-	-	-

Variables	No Victimization N (%)	Victimization N (%)	Missing	Total N (%)
Target Antagonism				
Sexual Orientation				
Heterosexual	22,509 (98.51)	197 (0.86)	144 (0.63)	22,850 (100)
Gay/Lesbian	1,182 (95.86)	46 (3.73)	5 (0.41)	1,233 (100)
Bisexual	506 (95.65)	20 (3.78)	3 (0.57)	529 (100)
Unsure	386 (94.38)	19 (4.65)	4 (0.98)	409 (100)
Missing	170 (95.51)	2 (1.12)	6 (3.37)	178 (100)
Total	24,753 (98.23)	284 (1.13)	162 (0.64)	25,199 (100)
Race				
Non-White	5,809 (97.58)	94 (1.58)	50 (0.84)	5,953 (100)
White, Non-Hispanic	18,944 (98.43)	190 (0.99)	122 (0.58)	19,246 (100)
Total	24,753 (98.23)	284 (1.13)	162 (0.64)	25,199 (100)
International Student Status				
No	22,752 (98.28)	253 (1.09)	146 (0.63)	23,151 (100)
Yes	1,815 (97.84)	26 (1.40)	14 (0.75)	1,855 (100)
Missing	186 (96.37)	5 (2.59)	2 (1.04)	193 (100)
Total	24,753 (98.23)	284 (1.13)	162 (0.64)	25,199 (100)