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The Role of Lifestyles and Routine Activities on Youth Sexual Assault and Intimate Partner Victimization

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THE ROLE OF LIFESTYLES AND ROUTINE ACTIVITIES ON YOUTH SEXUAL ASSAULT AND INTIMATE PARTNER VICTIMIZATION

A Criminal Justice Thesis submitted to the Graduate Faculty of Criminal Justice Department of Sociology and Criminal Justice at Kennesaw State University in partial fulfillment of the requirements for the degree of Master of Science in Criminal Justice

By Margaret Tilley

May 2015, Kennesaw, GA
Abstract

Past research indicates that a significant proportion of youth experience sexual or intimate partner victimization (IPV) during their time in high school. Studies examining the risk-factors for victimization among this population report that youth are more likely to be victimized when they engage in behaviors such as drinking, drug use, and risky sexual practices (see Basile, Black, Simon, Arias, Brener & Saltzman, 2006). Many past studies that have examined the risk factors for victimization among this population have used the theoretical framework put forth by the routine activities theory (Cohen & Felson, 1979) and lifestyle-exposure theory (Hindelang, Gottfredson & Garofalo, 1978). Drawing from previous research and the lifestyle-routine activities framework, this study utilized the National Youth Risk Behavior Survey (N=13,538) to examine what factors increased a youth’s risk of experiencing sexual victimization and IPV. Consistent with past findings, youth who engaged in risk-taking behaviors such as drug and alcohol use were more likely to report having been a victim of rape victimization and IPV. Policy and prevention implications are also discussed.
Acknowledgments

First and foremost, I want to thank my Heavenly Father for guiding me and giving me the strength to work through this degree and this thesis. Next, I would like to thank my husband, Adam, and the rest of my family for supporting me and keeping me sane. I would also like to thank Dr. Heidi Scherer for sharing her immense knowledge on this subject and for being such a wonderful role model and leader in this process. Finally, I would like to thank Dr. Tanja Link and Dr. McMahon-Howard for serving on my committee and for offering insight and encouragement.
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Chapter 1: Introduction and Prevalence

Throughout the past few decades, the United States experienced a decrease in the number of violent crimes committed (Maimon & Browning, 2012). Despite this decrease, the victimization statistics for certain populations remained to be an issue. One of these populations is youths. Interestingly, youth are the most victimization-prone segment of the population (Maimon & Browning, 2012). According to the Bureau of Justice Statistics (2014), in 2013, those aged 12-17 had the highest rates of violent victimization of all age groups. For instance, 2.2% of respondents aged 12-17 reported experiencing violent victimization while those aged 18 and older had prevalence rates of 1.7% or less. Further, the BJS (2014) reported that for serious violent crime (e.g., serious domestic/intimate partner violence and violent crime including a weapon or injury) youth aged 12-17 had similar rates of victimization to other high-risk populations like young adults (18-24). These findings underscore that violence is not an adult-only phenomenon and that youth are also at risk of experiencing violent victimization.

Additionally, data indicates that almost half (42%) of violent victimizations committed against youth aged 17 or younger went unreported from 2006-2010 (Langton & Berzofsky, 2012).

Sexual and intimate partner victimization (IPV), especially when it concerns youth, is a problem because of the effects it can have on the life of the victim and on the lives of those who surround them. According to Young, Grey and Boyd (2009), sexual assault and harassment of youth has been associated with negative outcomes including decreased school performance, friendship loss, skipping school, and other behavioral and mental health issues. Some of these outcomes, more specifically those related to school attendance and success, are particularly disconcerting as involvement in school can discourage youth from participating in risk behaviors
(Young et al., 2009). These factors can have cumulative negative effects on the individual and can be barriers to success over the life course.

This current study focuses on youth sexual victimization and IPV. Previous research on youth sexual victimization (both in the school setting and outside of schools) has examined the behaviors that might put youth at risk for victimization (Finkelhor & Asdigian, 1996; Livingston, Hequembourg, Testa & VanZile-Tamsen, 2007; Vézina, Hébert, Poulin, Lavoie, Vitaro & Tremblay, 2011). These studies indicate that behaviors such as drinking, drug use, and risky sexual practices are related to a youth’s victimization risk. In addition to risky behaviors such as substance use and relationships with deviant peer groups, other studies find that participation in unstructured and unmonitored social activities such as television viewing and video game playing may also influence victimization risk by reducing a youth’s level of guardianship (Henson et al., 2010). Mustaine and Tewksbury (2000) further explain that these activities are often centered on the “recreational pursuit of fun” and could also include the use and abuse of alcohol and other drugs (pg. 343). Drawing from past research, this study offers an examination into how these behaviors and other activities that youth typically engage in during their daily lives influence their likelihood of sexual victimization and IPV.

Many past studies that have examined the risk factors for victimization among this population have used the theoretical framework put forth by the routine activities theory (Cohen & Felson, 1979) and lifestyle exposure theory (Hindelang, Gottfredson & Garofalo, 1978). Together, they provide a framework for understanding why victimization happens. These theories assert that a person’s daily routines and activities influence their risk of victimization. This current study will use this framework and its extensions to understand how youths’ level of exposure to a motivated offender (e.g., binge drinking, drug and tobacco use, TV and videogame
viewership, the number of sex partners), levels of guardianship (e.g., carrying a weapon), and target congruent characteristics with an offender (e.g., low and high BMI) impact their risk of victimization.

**Prevalence of Sexual Assault Victimization and IPV**

Despite the overall drop in victimization rates, youth sexual assault and IPV remains a problem and a serious public health concern. A number of studies have examined youth sexual assault victimization and IPV in an effort to estimate how prevalent these forms of victimization are among this population. Based on the results from these studies, there is support for the claim that sexual assault victimization and IPV are a problem among youth (Bergman, 1992; Eaton et al., 2007; Howard, Debnam, & Wang, 2013; Howard, Qiu, & Boekeloo, 2013; Nofziger, 2008; Ramisetty-Mikler et al., 2006; Rothman & Xuan, 2014; Temple & Freeman, 2011; Vézina et al., 2011; Wingood et al., 2001). Table 1 includes a review of selected studies examining sexual assault and IPV among youth. The table also includes information on the measurement (i.e., sample size and reference period), victimization prevalence estimates, and how each study defined sexual assault and IPV. The most common definition of sexual assault utilized across the studies included being forced to engage in any type of unwanted sexual contact with another youth.

According to a sample of 16,000 men and women participating in the National Violence Against Women Survey (NVAWS), 25% of women reported that they were raped and/or physically assaulted by a date or partner in their lifetime (Tjaden & Thoennes, 1998). Based on the same survey, more than half (54%) of the female rape victims were under the age of 18 when they experienced their first rape. Approximately 30% were 12 to 17 years old when they were

---

1 Inclusion criteria included whether the study had a sample size greater than 400 and utilized some form of probability sampling.
first raped (Tjaden & Thoennes, 1998). This study, among others, highlights that youth are at risk of experiencing sexual assault before they reach adulthood.

Based on an analysis of 1,242 youth aged 12-17, Nofziger (2008) found that slightly more than 1% of males and females had been victims of sexual assault in their lifetime. On the other hand, Ashcroft and colleagues (2003) found slightly higher rates with 3.4% of males and 13.0% of females aged 12-17 reported having ever been victims of sexual assault. Further, from their analysis, Champion and colleagues (2004) reported that 7% of their youth and young adult sample had been victims of sexual assault across their lifetimes, while Small and Kerns (1993) found that 20% of females in middle and high school had reported some type of unwanted sexual contact in the past year. Based on their analysis of 1,086 7th-12th graders, Young and colleagues (2009) reported the highest rates of sexual violence among this population and found that three out of every four high school females reported being sexually harassed and over half of the high school females reported being sexually assaulted in their lifetime.

Like sexual victimization, IPV (also referred to as dating violence) is also a public health issue among youth. This form of violence includes several types of abusive behaviors, including physical violence (e.g., hitting, slapping, pushing), sexual violence (e.g., unwanted sexual contact, attempted and completed penetration) and psychological violence (e.g., demeaning and harmful language and comments) (Eaton et al., 2007). Research indicates that, similar to their adult counterparts, youth are also at risk of experiencing violence perpetrated by an intimate partner.

Clark and colleagues (2014) reported that nearly half of the middle and high school respondents (45.5% of males and 43.9% of females) reported dating violence at some point during the 18 months prior to participating in the study. Further, Haynie and colleagues (2013)
found that 31% of the youth in their study had been victims of IPV over the course of their lifetime. Hamby and Turner (2012) found that 4.5% of females experienced physical IPV while 7.9% of males experienced physical IPV. They also found that 2.8% of the females in their sample had experienced sexual IPV while 1.3% of the males had experienced sexual IPV. Many other studies have estimated the extent of IPV among youth and report various prevalence estimates ranging from approximately 2% to as high as almost 50% (Bergman, 1992; Eaton et al., 2007; Howard, Debnam, & Wang, 2013; Howard, Qiu, & Boekeloo, 2003; Ramisetty-Mikler et al., 2006; Rothman & Xuan, 2014; Temple & Freeman, 2011; Vézina et al., 2011; Wingood et al., 2001).

In sum, while the findings from the studies vary substantially based on the sample, reference period, and definition of sexual assault and IPV, an overall picture emerges that highlights that a notable proportion of both male and female youth experience interpersonal violence. For sexual victimization, estimates range from 7 to 50%, indicating that a sizeable number of youths will experience some type of unwanted sexual contact by the time they graduate high school. Past research also shows that youth are not immune from IPV as estimates indicate that anywhere from 2% to 46% percent of youth have been victimized by an intimate partner. Taken in totality, estimates from past studies establish that sexual assault and IPV is a reality for many youth and, therefore, gaining a more complete understanding of the factors that increase this risk is warranted. Chapter 2 will introduce victimology theories that can offer an explanation of why youth are victims of these crimes.
<table>
<thead>
<tr>
<th>Citation</th>
<th>N of Students</th>
<th>Reference Period</th>
<th>Sexual Assault Prevalence Estimates (%)</th>
<th>IPV Prevalence Estimates (%)</th>
<th>Operationalization of Victimization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashcroft, Daniels, &amp; Hart (2003)</td>
<td>4,023 males and females aged 12-17</td>
<td>Lifetime</td>
<td>Males: 3.4 Females: 13.0</td>
<td></td>
<td>Sexual assault: a range of acts, including the sexual penetration of a youth’s vagina or anus by a penis, finger, or object; the placement of another person’s mouth on a youth’s sexual parts; the touching of a youth’s sexual parts by another person or the forcing of a youth to touch others’ sexual parts; or the unwanted penetration of others by a youth</td>
</tr>
<tr>
<td>Bergman (1992)</td>
<td>631 males and females in 9th-12th grade</td>
<td>Lifetime</td>
<td>Males: 4.4 Females: 15.5</td>
<td></td>
<td>IPV victimization: sexual violence among high school dating partners</td>
</tr>
<tr>
<td>Champion, Foley, DuRant, Hensberry, Altman, &amp; Wolfson (2004)</td>
<td>1,303 16-20 year old females</td>
<td>Lifetime</td>
<td>7.1</td>
<td></td>
<td>Assault victimization: someone ever trying to have sex or actually having sex with someone against their will.</td>
</tr>
<tr>
<td>Clark, Spencer, Everson-Rose, Brady, Mason, Connett, Henderson, To, &amp; Suglia (2014)</td>
<td>9,295 males and females in grades 7-12</td>
<td>18 months</td>
<td>Males: 45.5 Females: 43.9</td>
<td></td>
<td>IPV victimization: Violence perpetrated by a dating partner</td>
</tr>
<tr>
<td>Eaton, Davis, Barrios, Brener &amp; Noonan (2007)</td>
<td>15,214 males and females in grades 9-12</td>
<td>12 months</td>
<td>Males and females combined: 9</td>
<td></td>
<td>IPV victimization: Being hit, slapped or physically hurt on purpose by a boyfriend or girlfriend</td>
</tr>
<tr>
<td>Citation</td>
<td>N of Students</td>
<td>Reference Period</td>
<td>Sexual Assault Prevalence Estimates (%)</td>
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<tr>
<td>Hamby &amp; Turner (2012)</td>
<td>1,680 males and females aged 12-17</td>
<td>Lifetime</td>
<td></td>
<td>Physical IPV: Males: 7.9 Females: 4.5</td>
<td>Teen dating violence: any sexual, physically injurious, or fear-inducing incidents</td>
</tr>
<tr>
<td>Haynie, Farhat, Brooks-Russell, Wang, Barbieri &amp; Iannotti (2013)</td>
<td>2,203 10th grade males and females</td>
<td>Lifetime</td>
<td></td>
<td>Males and females combined: 31</td>
<td>IPV victimization: being called names or insulted, swore at, threatened, pushed or shoved, and having something thrown at them by a boyfriend or girlfriend</td>
</tr>
<tr>
<td>Howard, Debnam, &amp; Wang (2013)</td>
<td>44,274 female high school students</td>
<td>12 months</td>
<td></td>
<td>9.9-10.3</td>
<td>IPV victimization: the physical, psychological/emotional, or sexual abuse within a dating relationship, as well as stalking.</td>
</tr>
<tr>
<td>Howard, Qiu, &amp; Boekeloo (2003)</td>
<td>444 12-17 year old males and females</td>
<td>3 months</td>
<td></td>
<td>Males: 8.0 Females: 5.3</td>
<td>IPV victimization: Being hit, slapped or physically hurt on purpose by a boyfriend or girlfriend</td>
</tr>
<tr>
<td>Nofziger (2008)</td>
<td>4,023 males and females aged 12-17</td>
<td>Lifetime</td>
<td>Males: 1:0 Females: 2.0</td>
<td></td>
<td>Sexual assault victimization: a man or boy ever putting a sexual part of his body inside your private sexual parts, inside your rear end or inside your mouth when you didn’t want them to.</td>
</tr>
<tr>
<td>Ramisetty-Mikler, Goebert, Nishimura, &amp; Caetano (2006)</td>
<td>1,242 males and females in grades 9-12</td>
<td>12 months</td>
<td>Males: 7.6 Females: 8.0</td>
<td></td>
<td>IPV victimization: whether dating partner ever hit, slapped, or physically hurt them on purpose.</td>
</tr>
<tr>
<td>Rothman &amp; Xuan (2014)</td>
<td>103,957 males and females in grades 9-12</td>
<td>12 months</td>
<td>Males: 9.4 Females: 9.2</td>
<td></td>
<td>IPV victimization: Ever being hit, slapped, or physically hurt by a girlfriend or boyfriend</td>
</tr>
<tr>
<td>Citation</td>
<td>N of Students</td>
<td>Reference Period</td>
<td>Sexual Assault Prevalence Estimates (%)</td>
<td>IPV Prevalence Estimates (%)</td>
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<tr>
<td>Small &amp; Kerns (1993)</td>
<td>1,149 females in the 7th, 9th and 11th grades</td>
<td>12 months</td>
<td>20</td>
<td></td>
<td>Sexual assault victimization: whether or not a student had been forced to engage in any type of unwanted sexual contact within the past year with another youth</td>
</tr>
<tr>
<td>Temple &amp; Freeman (2011)</td>
<td>1,565 male and female high school students</td>
<td>12 months</td>
<td>Males: 14.1</td>
<td>Females: 11.3</td>
<td>IPV victimization: Being hit, slapped or physically hurt on purpose by a boyfriend or girlfriend</td>
</tr>
<tr>
<td>Vézina, Hébert, Poulin, Lavoie, Vitaro &amp; Tremblay (2011)</td>
<td>550 15-year-old females</td>
<td>Lifetime</td>
<td>Physical IPV: 9.6</td>
<td>Sexual IPV: 10</td>
<td>Physical IPV victimization: How often their boyfriend had thrown an object at them, pushed or shoved them, slapped them, hit them with an object, beaten them up, or threatened them with a knife. Sexual IPV victimization: How often their boyfriend used arguments and pressure, used alcohol or drugs, or threatened them to or used some degree of physical force to incite them to have sexual contacts or to have a complete sexual intercourse.</td>
</tr>
<tr>
<td>Wingood, DiClemente, McCree, Harrington, &amp; Davies (2001)</td>
<td>522 black youth females between the ages of 14-18</td>
<td>6 months</td>
<td>18.4</td>
<td></td>
<td>IPV victimization: a boyfriend ever physically abusing a girlfriend (i.e punching, hitting, or pushing).</td>
</tr>
<tr>
<td>Young, Grey &amp; Boyd (2009)</td>
<td>1,086 males and females in grades 7-12</td>
<td>Lifetime</td>
<td>Males: 26</td>
<td>Females: 51</td>
<td>Sexual assault victimization: any form of unwanted sexual contact obtained through violent or nonviolent means.</td>
</tr>
</tbody>
</table>
Chapter 2: Theories of Victimology

As discussed in Chapter 1, youth sexual assault and IPV is a serious public health issue among those attending middle and high schools across the U.S. Victimology theories can offer insight on the occurrence of youth victimization. Specifically, there are two victimology theories that can be applied to understand the risk factors for victimization: 1) Cohen and Felson’s (1979) routine activities theory and 2) Hindelang, Gottfredson, and Garofalo’s (1978) lifestyle-exposure theory. There are also extensions to these theories such as Finkelhor and Asdigian’s (1996) concept of target congruence that helps to shed light on the causal factors that influence risk of victimization. Taken together, these theories provide a framework for understanding why victimization happens and can be used to inform crime prevention strategies and policy recommendations.

Routine Activities Theory

The routine activities theory was developed by Cohen and Felson (1979) and was designed to analyze macro-level crime rate trends and cycles. This theory posits that the probability of a crime occurring increases when there is a meeting in time and space of three elements: 1) the motivated offender, 2) the suitable target, and 3) the absence of a capable guardian. Cohen and Felson (1979) provide an ecological analysis of predatory violations that explain how the structure of the community along with the level of technology in a society can provide circumstances in which crime can thrive. Based on their theory, technological advances designed for everyday use including cars, small power tools, hunting weapons, highways and telephones may allow offenders to more effectively carry out a crime or can assist people in protecting their own or someone else’s property (Cohen & Felson, 1979).
The main premise of Cohen and Felson’s (1979) theory is that changes in the routine activities of everyday life influence criminal activity. Routine activities are defined as “any recurrent and prevalent activity which provide for basic population and individual needs, whatever their biological or cultural origin” (Cohen & Felson, 1979, p. 593). That is, routine activities are the activities such as going to work, school and other extracurricular activities that people do every day. Routine activities may occur at home, at work, and in any other activities that may take a person away from the home. These daily activities could affect the location of property and targets in visible and accessible places at certain times. Depending on the type of activity, individuals may also be able to have objects on hand that can be used as weapons for criminal activity or personal protection (Cohen & Felson, 1979). According to the theory, any changes in routine activities can influence crime rates by affecting the meeting in space and time of the three elements (i.e., motivated offenders, suitable targets and the absence of capable guardians) (Cohen & Felson, 1979). Motivated offenders have both criminal intent and an ability to carry out those intentions if they meet in space and time with unguarded targets (Cohen & Felson, 1979). Target suitability is often determined by factors such as value, physical visibility, access, and the inertia of a target against illegal treatment by offenders. Target suitability influences the occurrence of direct contact with potential offenders. Routine activities could affect the location of property and personal targets in visible and accessible places to the offender at certain times. Guardianship can include formal guardians such as the police, but ordinary citizens also act as guardians as they go about their own routine activities (Miethe & Meier, 1990; Mustaine & Tewksbury, 2000). It can also include physical measures, such as target hardening (e.g., locks, carrying weapons) (McNeeley, 2014).
The convergence in time and space of suitable targets and the absence of capable guardians may even lead to large surges in crime rates without requiring the conditions that would motivate an offender to engage in criminal activity. In other words, if the amount of motivated offenders or suitable targets was to remain constant in a community, changes in routine activities could impact the likelihood of their convergence in time and space. This would create more opportunities for crimes to occur (Cohen & Felson, 1979). On the other hand, the lack of motivated offenders and suitable targets or the presence of capable guardianship is enough to prevent a crime from occurring.

After World War II, there was a decrease in two factors that are considered to be conducive to crime: poverty and inequality (McNeely, 2014). Despite a decrease in poverty and inequality, which theoretically should decrease the number of motivated offenders, instead crime rates increased after the war. Cohen and Felson (1979) argued that this increase is the result of routine activities and that after World War II, people began to spend more time outside the home and at entertainment districts. In turn, the shift increased the probability that motivated offenders would meet in space and time with suitable targets in the absence of capable guardians.

Noteworthy changes to the routine activities of Americans also occurred during the 1960’s and 1970’s (Cohen & Felson, 1979). Based on their analysis Cohen and Felson (1979) found that there were many changes in household patterns during this time. For instance, the number of female college students increased 118%, and the married female labor force increased 31%, while the number of those living as single individuals increased 34%. The data indicated that the proportion of households unattended at 8 a.m. increased by almost half between 1960 and 1971. There were also increases in rates of out-of-town travel. Cohen and Felson (1979) found that reductions in household activity were related to increases in rape, robbery, and
assault. Women in the labor force and men and women in college meant a higher need for automobiles and homes left unguarded and unoccupied for long periods of the day. In turn, Cohen and Felson (1979) contended that this increased crime due to the lack of capable guardians watching over homes and automobiles. In addition, electronic appliances and small houseware shipments increased from 56.2 to 119.7 million units coinciding with an increase in theft crimes during the time period.

In sum, Cohen and Felson (1979) posited that the trends in crime rates are related to changes in routine activities. In turn, the structure of the activities influences criminal opportunity and the likelihood that a crime will occur. In other words, crime (or criminal opportunity) occurs when a suitable, unguarded target converges with an offender in time and space.

**Lifestyle-Exposure Theory**

Similar to routine activities theory, lifestyle-exposure theory was developed to explain patterns of victimization in the United States (Hindelang et al., 1978). However, instead of the macro-level approach that was taken by the routine activities theory, lifestyle-exposure theory took a micro-level approach. The theory was outlined in their book, *Toward a Theory of Personal Criminal Victimization*, and was based on victimization data from the National Crime Survey (now the National Crime Victimization Survey). Based on their analysis of the data, they found that victimization was not evenly distributed across populations and that people with certain demographic characteristics were more likely to report having been a victim. These differences across demographic characteristics would lead them to develop their lifestyle-exposure theory, which posits that differences in demographic characteristics vary across an
individual’s lifestyle and routine activities which impacts their victimization risk through exposure to motivated offenders

According to Hindelang et al.’s (1978) analysis of the NCS data, they found that victimization varied across demographic groups. For instance, rates of personal victimization are highly related to age. When examining data from eight different American cities, Hindelang and colleagues (1978) found that those under twenty years of age had a high rate of victimization that was three times the rate for those sixty-five and older. Gender also has an impact on victimization. It was found that males had a rate that was 50 percent greater than the rate for females. Drawing from these findings, Hindelang et al. (1978) posited that victimization varies across demographic characteristics due to the differences in individual’s lifestyle and routine activities. This lifestyle influences whom individuals associate with, the potential exposure to crime and the possibility of being a victim of a crime. Hindelang et al. (1978) explain that these associations are relationships among individuals that occur over time due to those individuals sharing lifestyle choices and interests. Thus, association with people having characteristics of offenders can increase the likelihood of personal victimization.

Therefore, based on their theory, Hindelang and colleagues (1978) assert that younger people are more likely than older individuals to be victimized because they spend more time outside of the home where they have a higher likelihood that they will come into contact with a motivated offender. Also, males and single people experience more victimization because they are more likely to be away from their homes and more exposed to offenders while females and older individuals being less likely to be out at night or out in general. Those who work or are in school, despite being away from the home, are more likely to spend time in structured, sheltered environments where they have a lower likelihood of being exposed to predatory offenders. In
addition, the higher one’s income, the more likely it is that time will be spent in semiprivate or private environments where exposure to motivated offenders is low (Hindelang et al., 1978).

Also, those who are married and/or have children will be less likely to be victimized because this lifestyle is more home-centric. Hindelang et al. (1978) assert that findings that victims of certain types of crimes (e.g., robbery, assault) are more likely to be disproportionately experienced by male, young, black, and urban residents from a lower socioeconomic status can be explained through lifestyle differences among these demographic populations that alter their exposure to motivated offenders.

Hindelang and colleagues (1978) posit that there are antecedents of these lifestyles that include expectations of people occupying various social roles; constraints on behavior imposed by economic status, education and family obligations; and individual adaptations to those constraints. It is the activities, or lifestyles, that each person engages in that reflect varying levels of exposure to risk and experience as a victim (Hindelang et al., 1978). Lifestyles are a characteristic way of distributing one’s time, one’s interests and one’s talent among the common social roles of one’s life. This applies to all individuals, regardless of age. These lifestyles come from limitations society places on an individual to fulfill role expectations based in their demographic and social characteristics (Hindelang et al., 1978). Role expectations are based on the culture’s ideas of what individuals should be doing based on their achieved or ascribed status. They define preferred and anticipated behaviors. Hindelang et al. (1978) were most concerned with those expectations that pertain to central statuses of individuals (e.g., being a woman or mother).

The typical expectations associated with specific characteristics, such as age or sex, limit the activities that are available to a person. For example, role expectations can vary dramatically
depending on the age (Hindelang at al., 1978). Activities and behavior that are expected and/or deemed appropriate for a child are generally not deemed appropriate for an adult. Traditional American childrearing practices involve definitions of role expectations including dress, manner, expression of emotion, and choice of playing objects among other factors that are dependent on the sex of the child (Hindelang et al., 1978). Along with individual characteristics, structural constraints, such as unemployment rates, create limited options in choosing between alternative lifestyles. Structural constraints are pre-existing limitations outside of the control of the individual and are based on various institutional orders. Because of these limitations, individuals develop skills and attitudes that in turn develop into their lifestyle (Hindelang et al., 1978). As a result of adaptations to role expectations and structural constraints, various demographic characteristics are predictive of lifestyle differences (Hindelang et al., 1978).

Finally, Hindelang and colleagues (1978) posit that changes in lifestyle choices of the victim are associated with changes in their desirability and convenience to potential offenders. It could be convenient to wait for a potential victim to come to a place at a certain time that is suitable to the offender. This time and place is often public places at night (Hindelang et al., 1978). From an offender’s perspective, not all individuals are equally desirable targets (Hindelang et al., 1978). A potential target’s lifestyle can the influence the offender’s perception of the desirability of that target if it appears that the target would be likely to report that crime to the police. For example, children may be desirable targets for certain crimes committed by other youth due to peer pressures not to inform the police (Hindelang et al., 1978). An individual’s vulnerability to personal victimization increases if the potential victim is seen by the offender to be less able to resist the offender (Hindelang et al., 1978). A person who is alone or under the influence of alcohol and drugs is relatively vincible to victimization.
In sum, according to this theory, one’s victimization risk is largely a function of their lifestyles. Individuals who have lifestyles that are similar to offenders (e.g., being out late at night) are most likely to be victimized (Mustaine & Tewksbury, 2000).

**Lifestyles-Routine Activities Framework**

Both routine activities theory and lifestyle-exposure theory emphasize the importance of behavior in predicting risk of victimization. Cohen and Felson (1979) examined the link between crime rate trends and changes in the routine activities of individuals’ everyday lives. As mentioned above, the routine activities of the individual can allow them to come into contact with motivated offenders in situations with low to no guardianship, making the individual a suitable target for the offender (Maxfield, 1987). Similar to routine activities, Hindelang and colleagues (1978) introduced the concept of lifestyle which refers to the routine activities of an individual such as work and school. Given these parallel ideas, Cohen, Klugel and Land (1981) proposed a framework that combined the theoretical aspects of the two theories to provide a more comprehensive framework for understanding victimization risk.

Referred to as the opportunity model of predatory victimization, this framework considers the time-space relationships in which victimization risk is the greatest (Cohen et al., 1981). Combining elements from the two theories, Cohen and colleagues (1981) posit that the risk for victimization is dependent on the lifestyle and routine activities of the people that bring them and/or their property into direct contact with potential offenders in the absence of capable guardians. The theory links dimensions of social inequality to criminal victimization with four theoretical concepts: exposure, proximity, guardianship, and target attractiveness (Cohen, et al., 1981).
Exposure is the “physical visibility and accessibility of persons or objects to potential offenders at any given time or place” (Cohen et al., 1981, pg. 507). An example of exposure might be youth spending time with known gang members. Similar to the concepts of exposure put forth by the lifestyle-exposure and routine activities theories, exposure in this framework suggests that those with characteristics similar to potential offenders are considered to be at a heightened risk for victimization (McNeely, 2014). Exposure is also measured as public activities that take the individual away from their homes such as work and school. Another measure of exposure is delinquent or criminal lifestyles. These lifestyles can be especially risky because offending exposes one to other offenders, therefore increasing the risk of victimization (McNeely, 2014). Along these lines, associating with delinquent peer groups can also increase the risk of being a victim (Vézina et al., 2011; Windle, 1994; Finkelhor & Asdigan, 1996). Additionally, drug and alcohol use is considered a risky behavior that could increase exposure to offenders and, therefore, can also increase the risk of victimization (Windle, 1994; Zaha et al., 2013; Temple & Freeman, 2011; Small & Kerns, 1993; Tillyer, Wilcox, & Gialopsos, 2010; Finkelhor & Asdigan, 1996).

Research has found that victimization is more likely when one is living in close proximity to offenders (McNeely, 2014). Proximity is the “distance between areas where potential targets live and heavily populated areas where offenders can be found” (Cohen et al., 1981, pg. 507). For instance, living in a high crime neighborhood could increase one’s risk of becoming a victim regardless of their other routine activities because he/she is more likely to converge in time and space with a motivated offender. Measures of proximity from this framework could include living close to urban, highly populated areas and also include being in large and crowded spaces. Commonly used measures of physical proximity also include socioeconomic characteristics of
the area (e.g., income level, unemployment rate, racial composition), and the perceived safety of the surrounding neighborhood (Miethe & Meier, 1990).

Guardianship is the effectiveness of persons (e.g., neighbors, law enforcement) or objects (e.g., alarms, windows) to prevent crimes from occurring, either by their presence or by some sort of interaction (McNeely, 2014). An example of a social guardianship measure includes neighbors watching a house while the owner is away. Past research has measured physical guardianship by the use of locks and carrying weapons (i.e., target hardening) (McNeely, 2014). Fisher and colleagues (2010) operationalized guardianship as carrying weapons such as guns, pepper spray, mace, and other techniques.

Target attractiveness is the “desirability of a person or property to potential offenders, as well as the perceived inertia (the weight and size) of a target” (Cohen and Felson, 1979, pg. 591). This can include the ease with which a potential target can be offended against or their ability to resist attack (McNeely, 2014). Measures for target attractiveness for property crime typically involves measures that gauge a person’s ownership of desirable and portable possessions (McNeely, 2014; Finkelhor & Asdigian, 1996). Measuring target attractiveness for expressive crimes (e.g., assault, sexual victimization) has been challenging. In the past, research has relied on the use of measures of economic value to examine the relationship between target attractiveness and victimization. While economic-related measures validly reflect the concept for property crimes, their use is less valid for interpersonal crimes. In response to this concern, Finkelhor and Asdigian (1996) developed the concept of target congruence (see below for detailed discussion of target congruence).

Another important factor of Cohen and colleague’s (1981) framework is the principle of homogamy. This principle explains that the more that people share sociodemographic
characteristic with potential offenders, the more likely it is that they will interact socially with such offenders. This can result in increased risk of exposure to offenders, which, in turn, increases one’s risk of victimization. This principle is important because lifestyle similarity is likely to bring potential offenders and potential victims together (Cohen et al., 1981). In other words, these characteristics give the offender “insider knowledge” about a potential victim who shares his/her characteristics (Cohen et al., 1981, p. 510). For instance, those who spend time with delinquent peers may be more likely to be victimized.

In sum, the lifestyles-routine activity framework asserts that a person’s likelihood of victimization is influenced by his or her levels of exposure, proximity, target attractiveness, and guardianship. Those with greater exposure, proximity, and target attractiveness, along with less guardianship, are the most likely to be victimized. This framework has been extensively studied and supported with empirical data for a wide range of victimization types including property victimization (see Jensen & Brownfield, 1986; Miethe, Stafford, & Long, 1987; Peguero, Popp, & Koo, 2011), violent victimization (see Averdijk, 2011; Bouchard, Wang, & Beauregard, 2012; Bunch, Clay-Warner, & Lei, 2012; Dugan & Apel, 2003), and sexual victimization (see Fisher, Daigle, & Cullen, 2010; Tillyer, Wilcox, & Gialopsos, 2010; Wittebrood & Nieuwbeerta, 2000).

Extensions to the L-RAT Framework

Target Congruence

Research by Finkelhor and Asdigan (1996) extends upon the lifestyle-routine activities framework and sheds more light on understanding the risk factors for victimization. Finkelhor and Asdigan (1996) had some critiques of the lifestyle-routine activities theory which they considered when expanding their framework. First, many youths can be victims of crimes without being involved in any sort of delinquent activity. Youth (especially young males) are
typically involved in some extent of delinquent activities, but even young children can be victims of assault, kidnapping, and sexual abuse. Next, they argued that lifestyle-routine activities theories were designed for and best explained violent crime like stranger assaults and robberies. Finally, they claimed that the definition of target attractiveness is lacking because it does not include personal attributes and leaves out potential reasons offenders chose their victims.

Finkelhor and Asdigian (1996) posited that guardianship, exposure, and proximity are factors that expose or protect individuals from victimization. Those three elements can dictate the level of contact individuals have with potential offenders and their potential level of risk of victimization. In addition to the concepts from the lifestyles-routine activities framework (e.g., exposure, proximity, and guardianship), individual characteristics and attributes could also be used to explain victimization. Personal characteristics, like being female or suffering from emotional deprivation, could increase vulnerability to victimization (independent of routine activities) because the characteristics have some congruence with the needs, motives or reactivities of offenders (Finkelhor & Asdigian, 1996). In other words, certain offenders may be drawn to certain types of people or certain characteristics of a person, regardless of exposure, proximity, and guardianship levels, leaving those people more vulnerable.

Finkelhor and Asdigian (1996) called this process target congruence. The process increases risks in one of three more specific ways including 1) target vulnerability, 2) target gratifiability, and 3) target antagonism. Target vulnerability is when “some victim characteristic increases risk because it compromises the potential victim’s ability to resist or deter victimization and, therefore, makes the victim an easier target for the offender” (Finkelhor & Asdigian, 1996, pg. 6). This might be the case for those who are elderly, very young, or of smaller stature. For youth, this could also include small size, physical weakness, emotional
deprivation and other psychological problems (Finkelhor & Asdigian, 1996). For instance, having a low Body Mass Index (BMI) might leave an individual vulnerable to victimization because their size may impact their ability to resist offenders.

Target gratifiability is when a “victim characteristic increases risk because it is some quality, possession, skill or attribute that the offender wants to obtain, use, have access to or manipulate” (Finkelhor & Asdigian, 1996, pg. 6). One of the most common risk factors in this category would be being female for the victimization of sexual assault. Also, similar to the lifestyle-routine activities concept of target attractiveness, having valuable possessions falls into this category as a risk factor for a victimization like theft or robbery. Target antagonism is when “a victim has a certain characteristic that increases risk by being a quality, possession, skill or attribute that brings about anger, jealousy or destructive impulses from the offender” (Finkelhor & Asdigian, 1996, pg. 6). Examples of this would be ethnic characteristics or sexual orientation (e.g., leading to hate crimes) or being anxiously attached or a “mama’s boy” (Finkelhor & Asdigian, 1996, pg. 6). Another example of target antagonism could include being overweight and having a high BMI. Being overweight can cause the individual to be a victim of hate crimes due to their size (Finkelhor & Asdigian, 1996).

In sum, Finkelhor and Asdigian (1996) help to further conceptualize the target selection characteristics of victims. In particular, their extension to the lifestyle-routine activities theory posits that offenders are drawn to certain characteristics that a victim possesses. These certain characteristics have congruence with the needs, motives, or desires of offenders. This is of particular importance to the current study as youth could be victimized based on their congruence with the offenders they are exposed to during their routine activities.
Applying Lifestyles-Routine Activities to Youth

Scholars have tried to apply victimology theories to explain the sexual victimization and IPV of youth. The lifestyle-routine activities theory provides a suitable theoretical framework for explaining victimization rates and possible risk factors. A major strength of the lifestyles-routine activities framework is that the theory can apply to many different populations and types of victimization. In particular, this framework and its theoretical concepts can be applied to youth victimization in a number of different ways such as examining the risky lifestyles that youth engage in and how the lifestyles may impact victimization. In addition, this theory helps to shed light on the casual mechanisms that may influence a youth’s likelihood to experience interpersonal violence.

Research focusing on this theory has identified youths’ delinquent or deviant peer group affiliations and risky lifestyles as factors that increase their risk for various forms of victimization (Vézina, Hébert, Poulin, Lavoie, Vitaro & Tremblay, 2011). This is because delinquents typically avoid positive social settings including schools and places of work, and, therefore, are not able to have the formal protection or guardianship of police (Finkelhor & Asdigian, 1996). Youth are often seen as “engaging in risky behaviors such as staying out late, going to parties and drinking. These behaviors compromise the guardianship provided by parents and other adults and expose the youth to possible victimization” (Finkelhor & Asdigian, 1996, pg. 4). As Finkelhor and Asdigian (1996) point out, most of the research on victimization stresses its connection to delinquent activities. They could engage in these illegal behaviors in an effort to isolate themselves and avoid being caught and punished by police or other authority figures (Gover, 2004). Youth who are under the influences of drugs and/or alcohol are physically impaired and could appear to be helpless to an offender making them an easy crime target.
In terms of dating violence, these theories could explain why negative behaviors that influence risk taking give youth a higher likelihood of violent victimization in dating relationships. Carbone-Lopez and Kuttschnitt (2009) posit that IPV can be a result of assortative mating. This suggests that youth enter into romantic relationships with others with similar characteristics and preferences. This points towards the principle of homogamy which states that the more that individuals share characteristics with offenders, the more likely they are to interact with them and potentially be victimized (Hindelang et al., 1978). Therefore, someone who engages in risky behavior may be more likely to date someone who also engages in risk-taking behavior. In turn, this could place them at increased risk of victimization due to the fact that risky behaviors such as alcohol and drug use are also risk factors for partner violence perpetration (Stith, Smith, Penn, Ward, & Tritt, 2004). Therefore, drawing from the concept of exposure, individuals who engage in risk-taking behaviors may have higher likelihood of being a victim of IPV due to dating those who also are involved in the risk-taking behaviors. This could lead to increased accessibility to motivated offenders (i.e., their intimate partners).

The theories also suggest that offenders are more likely to spend their time outside of the home with peers than to spend time in the home with family members. The peers of offenders are more likely to be deviant. This could allow for more opportunity to commit deviant acts and to be involved in the victimization of others, as well as provide the possibility of being victimized by deviant peers (Windle, 1994). Deviant peer group associations have been linked to a large amount of victimizations (Henson et al., 2010).

The way that a youth spends their unstructured and structured time could impact their exposure to offenders. Unstructured time spent with peers facilitates opportunities for crime, while structured time or time with those in authority can act as a protectant to victimization
Unstructured lifestyles involve activities that are largely conducted during youths’ free time. Examples of this could be time spent in electronic activities (e.g., time spent playing video/computer games, in online communities or surfing the web and checking e-mail) or time spent strength training. These activities could increase youth’s risk by increasing their accessibility to motivated offenders. On the other hand, structured activities could be time spent with family and time spent in school sports and extracurricular activities (Henson et al., 2010). Again, depending on the situation, structured activities could also increase a youth’s likelihood of coming into contact with motivated offenders. A youth’s victimization risk may also be influenced by their general routine activities such as spending time at entertainment and sporting events (e.g., football games, concerts) and in crowded venues (e.g., clubs, malls) where they may converge in time and space with motivated offenders who also patronize these establishments.

Further, youth may be viewed as a suitable target due to their physical size. Physical size could include height and/or weight. For instance, most youth are smaller in stature than adults and, in turn, may be less able to defend themselves. Youth who have a low BMI or a weight that falls in the 5% or less quartile may be more desirable to offenders. Their weight could prevent them from being able to successfully defend themselves from physical crimes such as rape. This would be an example of Finkelhor and Asdigian’s concept of target vulnerability because the small size of the individual could lead an offender to perceive that he/she is less able to resist a victimization. On the other hand, overweight youth (those with a BMI above the 85th percentile) may be more likely to be victims due to Finkelhor and Asdigian’s concept of target antagonism. For some offenders, an overweight individual may cause feelings of irritation or anger which may cause the offender to victimize the individual. In addition, an offender may also believe that
an individual with a high BMI could have low self-esteem and emotional fragility and be a better
target for rape and IPV.

Taken together, the routine activities and lifestyle-exposure theories, along with
Finkelhor & Asdigian’s (1996) revised conceptualization of the theories to include target
congruence, can be used to explain victimization of youth. In particular, this theoretical
framework highlights the routine behaviors and lifestyle characteristics of youth that can shape
their likelihood of experiencing interpersonal victimization. Chapter 3 includes a summary of
the past studies that have examined these theories in their research on two types of youth
victimization: sexual assault and IPV.
Chapter 3: Risk Factors for Sexual and IPV Among Youth

This chapter provides a discussion of research examining the lifestyle-routine activities framework and related measures of its theoretical concepts for sexual assault and IPV. These studies demonstrate that the theory can be applied to youth and help illuminate the risk factors that give youth a higher likelihood of being victimized.

Risk Factors for Sexual Victimization

Table 3.1 includes information on the measurement of sexual assault for each study examining lifestyle-routine activities to follow, including sample size and the significant risk factors for each study’s analysis. Basile and colleagues (2006) wanted to expand the understanding of the association between recent health-risk behaviors and a history of forced sexual intercourse. The cross-sectional study used a nationally representative sample of 15,240 high school students from the 2003 National Youth Risk Behavior Survey (YRBS) (Basile, Black, Simon, Arias, Brener & Saltzman, 2006). Forced sexual intercourse was measured with a question that asked participants if they had ever been physically forced to have sexual intercourse when they did not want to. The results showed that more female than male students reported ever being forced to have sexual intercourse (Basile et al., 2006). Both males and females who had experienced forced sexual intercourse were more likely to use cocaine. For females forced sexual intercourse was related to substance-use-related behaviors including smoking cigarettes, binge drinking, and using marijuana. In addition, females who were involved in sports teams were less likely to be victims (Basile et al., 2006).

Champion and colleagues (2004) examined the relationship between substance use, other health risk behaviors, and sexual victimization among female youth. The researchers conducted a

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2 Inclusion criteria included whether the study had a sample size greater than 500 and examined measures of the lifestyle-routine activities framework for sexual assault and IPV victimization among youth.
cross-sectional telephone survey of 647 sixteen to twenty-year-old females in 1999 and 1,236 females of the same age group in 2000. The survey was conducted as a part of the Enforcing Underage Drinking Laws Program. The survey assessed underage drinking, sexual victimization and other risky behaviors (Champion et al., 2004). Sexual victimization was measured with the question, “Has someone tried to have sex with you or actually had sex with you against your will?” In the 1999 survey, participants were asked to answer if the victimization had occurred after they had been drinking. In the 2000 survey, the question was asked of non-drinkers as well (Champion et al., 2004). The 1999 results revealed that the exposure measures of binge drinking and marijuana use in the past 30 days were positively associated with experiencing attempted or actual forced sex. The 2000 results varied slightly. They showed that the exposure measures of age at first drink and marijuana use within the past 30 days were significant predictors for sexual victimization (Champion et al., 2004).

Finkelhor and Asdigian (1996) performed a study that examined the risk factors for youth sexual victimization utilizing concepts from lifestyle-routine activities theory and their target congruence extension. Data for this research came from the National Youth Victimization Prevention Study which included approximately 10,656 adults and 2,000 children. The age range for the sample was 10-16. Variables within the study represented all of the major concepts of routine activities and of Finkelhor and Asdigian’s (1996) target congruence additions. They found that the variables representing target congruence (e.g., physical limitations, physical stature, psychological distress, social competence, and age) were significant predictors of victimization beyond those representing conventional lifestyle concepts (Finkelhor & Asdigian, 1996). Of those that represented target congruence, being female was the most powerful
predictor along with being older (e.g., 16). Finally, they also found that variables relating to exposure (e.g., risky behavior) were also significant (Finkelhor & Asdigian, 1996).

Nofziger (2009) examined how the lifestyles of youth influence violent victimization at school. Data for this research was drawn from the National Survey of Adolescents. The data was collected through a national probability telephone sample of 4,023 youth aged 12 to 17. Nofziger (2009) had three measures of victimization but of most importance to the current study was the measure of sexual assault. Deviant lifestyle was conceptualized as a combination of indicators of peer deviance and the respondents’ own delinquent behaviors such as common exposure measures like drug and alcohol use. Nofziger (2009) found that females were more likely than males to experience sexual victimization. Black respondents and those who marked “other” were also more likely to experience sexual victimization at school. Finally, being involved in a deviant lifestyle which included drug and alcohol use significantly predicted victimization (Nofziger, 2009).

Ramisetty-Mikler and colleagues (2006) examined gender and ethnic differences in experiencing sexual victimization and whether drinking (e.g., early initiation, binge drinking), unsafe sexual behaviors (e.g., use of alcohol and drugs with sex, multiple partners), and suicidality constitute risk for victimization among high school students. For the study, 1,242 high school students completed the 1999 Hawaii Youth Risk Behavior Survey (YRBS) and were asked whether they had been forced to have sexual intercourse when they did not want to (Ramisetty-Mikler, et al., 2006). They were also asked questions about their drinking patterns. The data showed that 16-year-olds were nearly 3 times more at risk for victimization compared to 18-year-olds. In addition, binge drinking was positively associated with sexual victimization
(Ramisetti-Mikler et al., 2006). Gender was not found to be as significant in this study as males and females were found to have similar rates of victimization (7.6% and 8.0% respectively).

Small and Kerns (1993) assessed the incidence and risk factors of unwanted sexual activity initiated by peers. Data was gathered from 1,149 female youths in a medium-sized Southwestern city. The measures for the survey included unwanted sexual activity, the relationship to the perpetrator, and various risk factors. The risk factors included questions about sexual behaviors and excessive alcohol use. Small and Kerns (1993) found that females were more likely to report sexual victimization and boyfriends were the most common perpetrator. Similar to the findings of other studies, excessive alcohol use was found to be predictive of sexual violence victimization. Females who reported excessive alcohol use were significantly more likely to report experiencing unwanted sexual activity. Also, females who reported a high level of peer conformity were more likely to be victimized.

Tillyer and colleagues (2010) examined whether an opportunity framework is appropriate for understanding youth school-based sexual harassment and sexual victimization. Data for the study was from the Rural Substance Abuse and Violence Project in Kentucky. The study was completed by 10,091 students from middle and high schools. Sexual assault victimization was measured by whether the respondent was touched in a sexual manner without consent or against his or her will. Results showed that, for males, involvement in school sports, associating with delinquent peers, and self-reported crime all increased the risk of sexual assault victimization. For females, involvement in school sports, associating with delinquent peers, and tobacco/alcohol/marijuana use were all associated with sexual assault victimization (Tillyer et al., 2010).
Young and colleagues (2009) examined youth peer-on-peer sexual assault victimization occurring within and outside of school. They used a cross-sectional, web-based self-administered survey of 1,086 7th to 12th graders from a school district in southeastern Michigan. Sexual assault questions included open-ended responses about: 1) kissing, hugging, or sexual touching, 2) oral sex, 3) attempted rape, and 4) rape. Exposure measures in this study asked about the relationship between the victim and the perpetrator (Young, et al., 2009). Being female was a predictor variable for most types of victimization measured. Along with being a demographic measure, which in turn influences one’s lifestyle, this could also reflect target congruence. They also found that sexual assault was most likely to occur within the context of a romantic relationship which could reflect exposure (Young et al., 2009). They found that being in high school was significant for sexual assault victimization. Finally, it was found that the use of drugs and arguments were used a coercion for the assault.

In sum, findings from the selected studies discussed above highlight that measures from the lifestyle-routine activities framework are predictive of sexual victimization among youth. While the operationalization of sexual violence varied across studies, ranging from unwanted sexual activity to rape, the general pattern of the findings were consistent. Those with greater exposure to potential offenders were more likely to be victimized. In particular, risk-taking behaviors such as drug and alcohol use, were consistently related to a youth’s increased risk of sexual assault victimization.
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<td>Females: Associating with Delinquent Peers (Exposure +)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Females: Tobacco/Alcohol/Marijuana Use (Exposure +)</td>
</tr>
<tr>
<td>Young, Grey and Boyd (2009)</td>
<td>1086 Male and Female Students in 7th-12th Grades</td>
<td>Sexual Assault</td>
<td>Female (Demographics +)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Being in High School (Demographics +)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Assault Committed by Someone They Knew (Exposure +)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Perpetration by Girlfriend/Boyfriend (Exposure +)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Use of Drugs and Arguments as Coercion (Exposure +)</td>
</tr>
</tbody>
</table>
**Risk Factors for IPV**

Table 3.2 shows selected studies that examined lifestyle-routine activities and the risk factors for IPV. The table provides information about the sample and the risk factors that were found to be significant in each study. In addition to examining the predictors of sexual victimization perpetrated by any offender, Basile and colleagues (2006) also examined IPV and its associated risk behaviors. The study used a nationally representative sample of 15,240 high school students from the 2003 National Youth Risk Behavior Survey (YRBS). Physical dating violence was defined as being hit, slapped or physically hurt by a boyfriend or girlfriend in the past 12 months (Basile et al., 2006). Other measures included questions about smoking cigarettes, drinking and driving, binge drinking (5+ drinks in one sitting), using marijuana, and using cocaine. They also included participation in vigorous physical activity or moderate physical activity and playing on at least one sports team (Basile et al., 2006). Based on their analysis, those who used cocaine in the past 30 days were significantly more likely to be victims of IPV. Females who were victims of IPV were also more likely to engage in other substance-use-related behaviors including smoking cigarettes, binge drinking, and using marijuana. Female victims of IPV were also less likely to be involved in sports teams (Basile et al., 2006). In general, females were more likely than males to be victims of IPV.

Clark and colleagues (2014) tested whether dating violence victimization was associated with increases in BMI across the transition from adolescence to young adulthood and whether gender and previous exposure to child maltreatment brought about the increases in BMI. Data was collected from 9,295 participants who took part in the National Longitudinal Study of Adolescent Health. Dating violence victimization was measured in waves 2, 3, and 4 of the study.

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3 Inclusion criteria included whether the study had a sample size greater than 500 and examined measures of the lifestyle-routine activities framework for sexual assault and IPV victimization among youth.
(Clark et al., 2014). In wave 2, participants were asked to report on their experiences of physical dating violence victimization in up to three relationships occurring in the previous 18 months. Wave 3 asked respondents about physical and sexual dating violence relationships that had occurred since the summer of 1995. Wave 4 asked about physical and sexual victimization in a current relationship (Clark et al., 2014). Throughout all waves, BMI increased on average 6.5 units for males and 6.8 units for females. Nearly half of the participants reported IPV. They found that females were more likely than males to report having experienced IPV. Further, they reported that females with higher BMIs were more likely to have been victims of dating violence than females with normal BMIs (Clark et al., 2014).

Eaton and colleagues (2007) examined the association of victimization in a physically violent dating relationship with risk behaviors, age of risk initiation, and co-occurrence of risk behaviors. Data for the study was collected from the 2003 National Youth Risk Behavior Survey (YRBS). The survey was completed by 15,214 students across the U.S. Physical dating violence victimization was measured by the question, “During the past 12 months, did your boyfriend or girlfriend ever hit, slap, or physically hurt you on purpose?” Risk behavior measures included questions about alcohol and marijuana use and sexual behavior. Their analysis indicated that the association of risk behavior participation with dating violence victimization varied significantly by gender (Eaton et al., 2007). Among females, black students were more likely to be victims of physical IPV than white students. The odds of victimization was greater among females who had used alcohol at some point as opposed to students who had never had a drink. The same was true for marijuana use (Eaton et al., 2007). Among male students, students of “other” races and/or ethnicities were more likely to report being victims than those who were white. Unlike for females, alcohol and marijuana use were not significant predictors of dating violence.
victimization among males. For males and females, those who initiated sexual intercourse at age 13 or older were also more likely to be victims.

Gover (2004) tested the routine activities and lifestyle theories that posit that risk-taking behaviors (i.e., drug and alcohol abuse and sexual promiscuity), along with the social ties and emotional states of the individual, have an effect on the likelihood of violent victimization in youth dating relationships. Her analysis utilized a sample of 5,545 high school youth who had participated in the 1997 South Carolina Youth Risk Behavior Survey (YRBS). Violent dating victimization was the dependent variable and drug abuse, alcohol abuse and sexual behavior were among the independent variables examined in the analysis (Gover, 2004). The results showed that males were significantly less likely than females to be a victim of dating violence. African Americans were less likely to report dating violence victimization than other race and ethnic groups. Consistent with past research, illicit drug use, drinking, and promiscuous sexual behavior were all significantly related to dating violence (Gover, 2004).

Haynie and colleagues (2013) also examined the relationship between risk-taking behaviors and dating violence victimization. Their analysis used a national sample of 2,203 10th grade students who completed surveys on physical and verbal IPV, mental health factors, and risk-taking behaviors (Haynie et al., 2011). Dating violence was measured with five items including whether the respondents’ boyfriend/girlfriend pushed or shoved him/her, swore at him/her, and threw something that could hurt him/her. Measures of alcohol, tobacco and marijuana use were also included in their analysis. The authors found that being African-American was associated with physical and verbal dating violence behaviors (Haynie et al., 2011). However, this finding was limited to males. They did find that females reported more IPV, but that verbal aggression was most common. Consistent with many past studies, significant
positive associations were found between substance abuse and dating violence (Haynie et al., 2011).

Howard, Qiu, and Boekeloo (2003) examined the association of dating violence with parental relationships, church attendance and risk-taking behaviors. They used a sample of 444 youth who participated in a randomized controlled alcohol risk-prevention trial and completed a survey as a part of the study. Measures included questions on risk-taking behavior such as alcohol use and violence experiences, along with questions on peer drinking experiences. The dating violence measure asked participants if they had been hit, punched, or physically hurt on purpose by a girlfriend or boyfriend within the past 3 months (Howard et al., 2003). Results showed that male and female youth were equally likely to report having experienced dating violence. Older and African-American youth were significantly more likely to report IPV than younger or non-African-American youth. Alcohol use was found to be associated with IPV victimization.

Pearce, Boergers and Prinstein (2001) examined the relationship between obesity and IPV in youth. For their study, a group of 416 youth in grades 9-12 were recruited from a high school in a small southern New England city. The students were administered a survey that asked questions regarding IPV, along with questions about the respondent’s BMI (Pearce et al., 2001). The researchers included being both overweight and obese in their analyses as they are two different levels of weight classifications. They found that obese females reported higher levels of IPV than did average-weight females (Pearce et al., 2001).

Ramisetty-Mikler and colleagues (2006) examined gender and ethnic differences in experiencing physical dating violence and whether drinking (e.g., early initiation, binge drinking), unsafe sexual behaviors (e.g., use of alcohol and drugs with sex, multiple partners),
and suicidality influence risk for IPV among high school students. For the study, 1,242 high school students completed the 1999 Hawaii Youth Risk Behavior Survey (YRBS). Students were asked if their dating partner had hit, slapped or physically hurt them on purpose in the last 12 months. They were also asked questions about their drinking patterns. The data indicated that 16-year-olds were nearly 3 times more likely to report having experienced IPV than 18-year-olds. Also, those who never engaged in sex experienced the lowest rate of dating violence while those who initiated sex at an early age had the highest level of IPV. Binge drinking was also positively associated with IPV, along with using drugs in conjunction with sex (Ramisetty-Mikler et al., 2006).

Temple and Freeman (2011) examined the association between dating violence victimization and the use of a variety of licit and illicit substances among 1,565 high school students in southeast Texas. The data was utilized in the study was collected form a survey based on the Youth Risk Behavior Survey (YRBS). Dating violence victimization was measured by a question that asked how often a boyfriend or girlfriend has hit, slap, or physically hurt the participant during the past 12 months. Participants were then asked about their tobacco, alcohol and drug use (Temple & Freeman, 2011). The results from the bivariate analysis showed that all alcohol, tobacco and drug use variables were strongly associated with IPV (Temple & Freeman, 2011). The strongest associations were for recent inhalant use and lifetime ecstasy use. Also, lifetime use of any controlled substance (e.g., marijuana, inhalants, ecstasy, Vicodin, or Xanax) was associated with IPV. In multivariate analyses, Temple and Freeman (2011) found that drinking alcohol and smoking cigarettes during the past month significantly increase a respondent’s likelihood to have reported experiencing IPV. Further, youth who used both alcohol
and controlled substances concurrently were more likely to report IPV (Temple & Freeman, 2011).

Vézina and colleagues (2011) examined the relationship between the peer group and IPV among female youth. They hypothesized that those who are involved in risky behaviors and spend time with deviant peer groups are more likely to be victims of IPV. They used a sample of 550 females from Quebec, Canada who completed a questionnaire on three forms of dating violence victimization (i.e., psychological, physical and sexual). The data revealed a significant link between deviant peer affiliation and IPV (Vézina, et al., 2011). Females who reported spending more time with deviant peer groups had an increased likelihood of being victimized in their dating relationships. However, this association was impacted by their own risky lifestyles. They asserted that spending time with deviant peers may offer social opportunities for youth to participate in activities with reduced or no guardianship, and may also increase their involvement in routine activities that are characterized by risky behaviors (Vézina, et al., 2011).

A study done by Zaha and colleagues (2013) in Hawaii explored the relationship between youth substance use and IPV. Their study utilized data from the analysis using the Hawaii Youth Risk Behavior Survey (YRBS) data for the years 2005, 2007 and 2009 that included 4,364 public school students from medium and large school districts. In this study, youth IPV was measured by a single question that asked if the participants’ boyfriend or girlfriend had ever hit, slapped or physically hurt them on purpose during the past 12 months. Their measure of substance abuse included questions about alcohol, marijuana and other drug use. The researchers included measures for the youths’ age of onset for alcohol and drug use (Zaha, et al., 2013). They found that substance abuse and IPV were prevalent among Hawaii youth (with 13.5% of females and 16.8% of males being victims of IPV). Substance abuse was found to be associated with an
increased likelihood of reporting IPV. This included marijuana use and the use of other illicit drugs.

Like for sexual victimization, based on the analyses from a variety of different studies, the lifestyle-routine activities framework appears to shed light on the factors that influence youths’ risk of victimization perpetrated by an intimate partner. The studies demonstrated that engaging in risky behaviors such as risky sexual practices, and drug and alcohol use can increase the likelihood of being a victim of IPV. The studies also showed that females were more likely to be victims of sexual assault and that both sexes experience IPV.
<table>
<thead>
<tr>
<th>Citation</th>
<th>Sample</th>
<th>Outcome</th>
<th>Significant Predictors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basile, Black, Simon, Arias, Brener and Saltzman (2006)</td>
<td>13,080 Male and Female High School Students</td>
<td>Lifetime Experience of Intimate Partner Violence</td>
<td>Using Cocaine During the Past 30 days (Exposure +)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>For Females: Engaging in Smoking Cigarettes, Binge Drinking and Using Marijuana in the Past 30 Days (Exposure +)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Females: Participating in Team Sports (Exposure –)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Being Female (Demographics +)</td>
</tr>
<tr>
<td>Clark, Spencer, Everson-Rose, Brady, Mason, Connett, Henderson, To, and Suglia (2014)</td>
<td>9,295 High School Male and Female Students</td>
<td>Dating Violence Victimization</td>
<td>Being Female (Demographics +)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Higher BMI (Target Congruence +)</td>
</tr>
<tr>
<td>Eaton, Davis, Barrios, Brener and Noonan (2007)</td>
<td>15,214 High School Male and Female Students</td>
<td>Physical Dating Violence Victimization</td>
<td>For Females: Being Black (Demographics +)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>For Females: Initiating Alcohol Use at Age 13 or Older (Exposure +)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>For Females: Initiating Marijuana Use at Age 13 Years or Older (Exposure +)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>For Females: Initiating Sexual Intercourse at Age 13 Years or Older (Target Attractiveness +)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>For Males: Initiating Sexual Intercourse at Age 13 Years or Older (Target Attractiveness +)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>For Males: Being “Other Race” and/or Ethnicity (Demographics)</td>
</tr>
<tr>
<td>Citation</td>
<td>Sample</td>
<td>Outcome</td>
<td>Significant Predictors</td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>---------</td>
<td>------------------------</td>
</tr>
</tbody>
</table>
| Gover (2004) | 5,545 High School Male and Female Students | Violent Dating Victimization | Being Male (Demographics -)  
Being African American (Demographics -)  
Illicit Drug Use (Exposure +)  
Drinking and Driving Under the Influence of Alcohol (Exposure +)  
Promiscuous Sexual Behavior (Exposure +) |
| Haynie, Farhat, Brooks-Russell, Wang, Barbieri and Iannotti (2013) | 2,524 10th Grade Students | Dating Violence Victimization | Being African American (Demographics +)  
Substance Abuse (Exposure +)  
Being Female (Demographics +) |
| Howard, Qiu and Boekeloo (2003) | 444 12-17 Year-Old Males and Females | Dating Violence | Alcohol Consumption (Exposure +)  
Peer-drinking Exposures (Exposure +)  
Being African American (Demographics +) |
<p>| Pearce, Boergers and Prinstein (2002) | 416 Youth in Grades 9-12 | Relational Aggression (Dating Violence) | Being Obese (Target Antagonism +) |</p>
<table>
<thead>
<tr>
<th>Citation</th>
<th>Sample</th>
<th>Outcome</th>
<th>Significant Predictors</th>
</tr>
</thead>
</table>
| Ramisetty-Mikler, Goebert, Nishimura, & Caetano (2006) | 1,242 Male and Female High School Students | Dating Violence Victimization       | Being 16 Years Old *(Demographics +)*  
|                                               |                                 |                                      | Binge Drinking *(Exposure +)*                                                       |
|                                              |                                 |                                      | Using Drugs During Sex *(Exposure +)*                                                 |
| Temple and Freeman (2011)                    | 1,565 High School Students      | Dating Violence Victimization        | Recent Smoking *(Exposure +)*                                                        |
|                                               |                                 |                                      | Recent Marijuana Use *(Exposure +)*                                                   |
|                                              |                                 |                                      | Recent Alcohol Use *(Exposure +)*                                                     |
|                                              |                                 |                                      | Recent Binge Drinking *(Exposure +)*                                                  |
|                                              |                                 |                                      | Recent Inhalant Use *(Exposure +)*                                                    |
|                                              |                                 |                                      | Lifetime Ecstasy Use *(Exposure +)*                                                   |
|                                              |                                 |                                      | Lifetime Viocodin Use *(Exposure +)*                                                  |
|                                              |                                 |                                      | Lifetime Xanax Use *(Exposure +)*                                                     |
|                                              |                                 |                                      | Lifetime Any Controlled Substance Use *(Exposure +)*                                 |
|                                               |                                 |                                      | Deviant Peer Affiliation *(Exposure +)*                                               |

41
<table>
<thead>
<tr>
<th>Citation</th>
<th>Sample</th>
<th>Outcome</th>
<th>Significant Predictors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zaha, Helm, Baker and Hayes (2013)</td>
<td>4,364 Students</td>
<td>Youth Intimate Partner Violence</td>
<td>Lifetime Alcohol Use ($\text{Exposure} +$)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Used Marijuana Either in Their lifetime or in the Past 30 Days ($\text{Exposure} +$)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Other Drug Use ($\text{Exposure} +$)</td>
</tr>
</tbody>
</table>
Current Study

Drawing from past research studies, the purpose of this study is to explore the risk factors for teenage sexual victimization and IPV based on the lifestyle-routine activities framework. This study will use concepts of lifestyle-routine activities and its extensions such as exposure (e.g., binge drinking, drug and tobacco use, TV and videogame viewership, the number of sex partners), guardianship (e.g., carrying a weapon) and target congruence (e.g., low and high BMI) to examine the risk factors for victimization.

Unlike many of the past studies on youth victimization and lifestyle-routine activities framework that use nonprobability or small-sized samples, this study will use a large national sample of approximately 13,000 high-school students that can be generalized to students across the United States. Many of the past studies only use samples from a particular region or state within the U.S and others only examine risk among a particular age (i.e., 15-year-olds only) or grade group (i.e., 10th grade only). The current study improves upon these studies by using a sample that covers the entire U.S. and age groups within high school (9th through 12th grades).

Another strength of the current study is that it can speak to the victimization of both sexes by including males and females in the analyses. This improves upon many past students that have focused primarily on female victimization and have given little attention to their male counterparts. In turn, less is known about the risk factors for sexual and partner violence among males, despite the finding that they are also at risk for experiencing these forms of victimization (see Table 1.1).

One of the strongest contributions of this study is the examination of rich measures of lifestyle-routine activities. For instance, while past studies have examined a wide range of lifestyle-routine activities measures, few studies on sexual victimization and IPV have examined
multiple measures of the theoretical concepts from the theory within the same analyses. That is, while past studies have examined the impact of demographic characteristics, risk-taking behaviors (e.g., alcohol and drug use), target congruence measures (e.g., BMI), and unstructured activities (i.e., video game use, television viewing) on youths’ risk of victimization, few studies have examined these measures collectively including them all in one statistical analyses. Because of this, it is unknown which lifestyle-routine activities measures have the largest impact on youth victimization and whether the statistical impact of some measures is reduced when controlling for other factors. This study addresses this past limitation by including simultaneously, within the same analyses, multiple measures of target congruence and lifestyle-routine activities.
Chapter 4: Methods

Survey Instrument, Sample and Data

This study will use data from the Center for Disease Control’s (CDC) National Risk Youth Behavior Survey. The survey is a part of the Youth Risk Behavior Surveillance System (YRBSS). The YRBSS examines six health behaviors that not only contribute to the leading causes of death and disability among youth and adults, but can also contribute to violence, pregnancy and sexually transmitted diseases, and risk-taking behaviors such as alcohol, drug, and tobacco use, and physical health such as unhealthy diets and poor physical activity (CDC, 2014).

The main survey portion was created in 1991. Each wave of the survey a representative sample of students in grades 9-12 are selected for inclusion in the study (Brener et al., 2013). The main survey is school-based and is administered at the national-, state-, tribal-, and large urban school district-levels. It is conducted every other year with each wave beginning in July of the preceding even-numbered year when the questionnaire for the next year is released and continues until the data is published in June of the following even-numbered year (Brener et al., 2013). For each wave, the CDC creates a standard survey that sites can use as is or make changes to (i.e., add or remove questions) in order to meet their needs (Brener et al., 2013).

Contained within the main survey is the National Risk Youth Behavior Survey (YRBS). The main difference between the two surveys (main and national) is the addition to the national survey of 5-11 questions on health-related topics that do not fit into what is already covered in the main survey. The YRBS is conducted during February through March of each odd numbered year. However, certain sites conduct the survey during the fall of odd-numbered years or during
even-numbered years (Brener, et al., 2013). See Appendix A for the 2013 National Youth Risk Behavior Survey instrument used in this analysis.

All surveys are self-administered and completed by student respondents. Students record their responses on a computer-scannable questionnaire booklet or answer sheet. According to the CDC, skip patterns are not included in the instrument in order to ensure that it takes respondents the same amount of time to complete the survey, regardless of the student’s health-risk behavior status (Brener, et al., 2013). This is valuable because it also provides greater confidentiality to respondents by preventing other students from detecting a blank set of responses that may indicate another student’s health-risk behaviors (Brener, et al., 2013).

The 2013 sampling frame consisted of all traditional public and private schools with students in grades 9-12 in the 50 states and the District of Columbia (Kann, et al., 2014). A three-stage cluster sample design was used to produce a nationally representative sample of students. The first-stage sampling frame consisted of approximately 1,300 primary sampling units. These units consisted of: 1) counties, 2) subareas, 3) large counties or 4) other smaller groups within adjacent counties. Of the approximately 1,300 units, 54 were sampled with probability proportional to overall school enrollment size within the unit (Kann, et al., 2014). The second stage of sampling consisted of 193 schools with grades 9-12 with probability proportional to school enrollment size (Kann, et al., 2014). The third stage consisted of random sampling in each of the grades with one or two classrooms (i.e., a required subject or period). All students in the sample classes were eligible to participate. In other words, the county was selected first, then the schools within the counties, and finally, classrooms within the schools.

From the National YRBS, 13,633 questionnaires were completed from 148 public and private schools across the U.S. Among those, 50 failed quality control (i.e., questionnaire had too
many missing or consecutive responses) and were excluded. This resulted in a final sample size of 13,583 students (Kann, et al., 2014).

**Dependent, Independent, and Control Variables**

The measures that will be used for this study reflect the concepts from the lifestyle-routine activities framework. This includes the concepts of target congruence, exposure, and guardianship. The 2013 National YRBSS survey includes survey items that measure victimization, demographic characteristics, and lifestyle-routine activities characteristics that have been found to be related to sexual victimization and IPV risk such as substance abuse, sexual behavior, and physical health and activity (see Chapter 3 for review of studies on past research). Table 4.1 includes information on the wording of the original survey item, variable coding, and descriptive statistics for the dependent, independent, and control variables used in this analysis.

**Dependent Variables**

*Rape Victimization.* The first dependent variable used in this study was rape victimization. Respondents were asked: *Have you ever been physically forced to have sexual intercourse when you did not want to?* This measure is dichotomous in nature. Respondents could answer no (0) or yes (1) to having been forced into nonconsensual sexual intercourse.
<table>
<thead>
<tr>
<th>Variable Type</th>
<th>Variable Name</th>
<th>Survey Items</th>
<th>Coding</th>
<th>M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variables</strong></td>
<td>Sexual Victimization</td>
<td>Have you ever been physically forced to have sexual intercourse when you did not want to? (Count such things as being hit, slammed into something, or injured with an object or weapon.) 0 = No 1 = Yes</td>
<td>0 = No 1 = Yes</td>
<td>0.08 (0.27)</td>
</tr>
<tr>
<td>Any IPV</td>
<td>Composite measure of Physical and Sexual IPV</td>
<td>0 = No 1 = Yes</td>
<td>0 = No 1 = Yes</td>
<td>0.12 (0.33)</td>
</tr>
<tr>
<td>Physical Intimate Partner Violence</td>
<td>During the past 12 months, how many times did someone you were dating or going out with physically hurt you on purpose? 0 = No (0 times) 1 = Yes (1 or more times)</td>
<td>0 = No (0 times) 1 = Yes (1 or more times)</td>
<td>0 = No (0 times) 1 = Yes (1 or more times)</td>
<td>0.08 (0.27)</td>
</tr>
<tr>
<td>Sexual Intimate Partner Violence</td>
<td>During the past 12 months, how many times did someone you were dating or going out with force you to do sexual things that you did not want to do? 0 = No (0 times) 1 = Yes (1 or more times)</td>
<td>0 = No (0 times) 1 = Yes (1 or more times)</td>
<td>0 = No (0 times) 1 = Yes (1 or more times)</td>
<td>0.08 (0.27)</td>
</tr>
<tr>
<td><strong>Independent Variables</strong></td>
<td>Marijuana Use</td>
<td>During your life, how many times have you used marijuana? 0 = 0 times 1 = 1 or more times</td>
<td>0 = 0 times 1 = 1 or more times</td>
<td>0.09 (0.29)</td>
</tr>
<tr>
<td>Illicit Drug Use</td>
<td>Composite measure that combines the seven illicit drug measures</td>
<td>0 = None 1 = 1 or more times</td>
<td>0 = None 1 = 1 or more times</td>
<td>0.24 (0.43)</td>
</tr>
<tr>
<td>Cocaine Use</td>
<td>During your life, how many times have you used any form of cocaine, including powder, or freebase? 0 = None 1 = 1 or more times</td>
<td>0 = None 1 = 1 or more times</td>
<td>0 = None 1 = 1 or more times</td>
<td>0.06 (0.23)</td>
</tr>
<tr>
<td>Sniffing Glue</td>
<td>During your life, how many times have you sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high? 0 = None 1 = 1 or more times</td>
<td>0 = None 1 = 1 or more times</td>
<td>0 = None 1 = 1 or more times</td>
<td>0.09 (0.28)</td>
</tr>
<tr>
<td>Heroin Use</td>
<td>During your life, how many times have you used heroin (also called smack, junk, or China White)? 0 = None 1 = 1 or more times</td>
<td>0 = None 1 = 1 or more times</td>
<td>0 = None 1 = 1 or more times</td>
<td>0.02 (0.15)</td>
</tr>
</tbody>
</table>
### Table 4.1: Measurement of Dependent, Independent and Control Variables, continued

<table>
<thead>
<tr>
<th>Variable Type</th>
<th>Variable Name</th>
<th>Survey Items</th>
<th>Coding</th>
<th>M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Methamphetamine Use</td>
<td>During your life, how many times have you used methamphetamines (also called speed, Crystal, crank, or ice?)</td>
<td>0 = None</td>
<td>0.03 (0.17)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 = 1 or more times</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ecstasy Use</td>
<td>During your life, how many times have you used ecstasy (also called MDMA)?</td>
<td>0 = None</td>
<td>0.07 (0.26)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 = 1 or more times</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Steroid Use</td>
<td>During your life, how many times have you taken steroid pills or shots without a doctor’s prescription?</td>
<td>0 = None</td>
<td>0.03 (0.17)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 = 1 or more times</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prescription Drug Use</td>
<td>During your life, how many times have you taken a prescription drug (such as OxyContin, Percocet, Vicodin, codeine, Adderall, Ritalin, or Xanax) without a doctor’s prescription?</td>
<td>0 = None</td>
<td>0.18 (0.38)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 = 1 or more times</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of Sex Partners</td>
<td>During your life, with how many people have you had sexual intercourse?</td>
<td>0 = 0-2 sex partners</td>
<td>0.23 (0.42)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 = 3 or more sex partners</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-Binge Drinking</td>
<td>During the past 30 days, what is the largest number of alcoholic drinks you had in a row, that is, within a couple of hours?</td>
<td>0 = Non-drinkers and binge drinkers</td>
<td>0.19 (0.39)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 = 1-4 drinks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Binge Drinking</td>
<td>During the past 30 days, what is the largest number of alcoholic drinks you had in a row, that is, within a couple of hours?</td>
<td>0 = Non-drinkers and non-binge drinkers</td>
<td>0.16 (0.37)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 = 5+ drinks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TV Viewership</td>
<td>On an average school day, how many hours do you watch TV?</td>
<td>0 = 2 hours or less a day</td>
<td>0.36 (0.48)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 = 3 or more hours a day</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Videogame Use</td>
<td>On an average school day, how many hours do you play video or computer games or use a computer for something that is not school work?</td>
<td>0 = 2 hours or less a day</td>
<td>0.48 (0.49)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 = 3 or more hours a day</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Time Spent Strength Training</td>
<td>On how many of the past 7 days did you do exercises to strengthen or tone your muscles, such as push-ups, sit-ups or weight lifting?</td>
<td>0 = 2 or less days</td>
<td>0.52 (0.49)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 = 3 or more days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Participation in Sports</td>
<td>During the past 12 months, on how many sports teams did you play?</td>
<td>0 = None</td>
<td>0.53 (0.49)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 = 1 or more teams</td>
<td></td>
</tr>
</tbody>
</table>
# Table 4.1: Measurement of Dependent, Independent and Control Variables, continued

## Variable Type

<table>
<thead>
<tr>
<th>Variable Type</th>
<th>Variable Name</th>
<th>Survey Items</th>
<th>Coding</th>
<th>M (SD)</th>
</tr>
</thead>
</table>
|               | Smoking       | During the past 30 days, on how many days did you smoke cigarettes?           | 0 = 0 days  
|               |               |                                                                                | 1 = 1 to all 30 days | 0.15 (0.35) |
|               | Weapon Possession on Campus | During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club? | 0 = None  
|               |               |                                                                                | 1 = 1 or more days | 0.17 (0.38) |
|               | Body Mass Index Percentiles (BMI): Low BMI | How old are you?  
|               |               | What is your sex?  
|               |               | How tall are you without your shoes on?  
|               |               | How much do you weigh without your shoes on?  
|               |               | Composite measure based off of four questions.                               | 0 = Those in the 5\textsuperscript{th} percentile and above | 0.03 (0.17) |
|               | Body Mass Index Percentiles (BMI): High BMI | How old are you?  
|               |               | What is your sex?  
|               |               | How tall are you without your shoes on?  
|               |               | How much do you weigh without your shoes on?  
|               |               | Composite measure based off of four questions.                               | 0 = Those in the less than 85\textsuperscript{th} percentile  
|               |               |                                                                                | 1 = In the over 85\textsuperscript{th} percentile | 0.31 (0.46) |
| Control Variables | Race | What is your race?                                                          | 0 = Non-white  
|               |               |                                                                                | 1 = White | 0.47 (0.49) |
|               | Sex          | What is your sex?                                                            | 0 = Female  
|               |               |                                                                                | 1 = Male | 0.51 (0.49) |
|               | Grade        | In what grade are you?                                                       | 0 = No  
|               | Sophomores   |                                                                                | 1 = Yes | 0.24 (0.42) |
|               | Junior       | In what grade are you?                                                       | 0 = No  
|               |               |                                                                                | 1 = Yes | 0.24 (0.42) |
|               | Senior       | In what grade are you?                                                       | 0 = No  
|               |               |                                                                                | 1 = Yes | 0.26 (0.44) |
**IPV.** The second dependent variable used in this study was IPV. IPV was measured with two survey questions. The first question gauged physical IPV and asked respondents: *During the past 12 months, how many times did someone you were dating or going out with physically hurt you on purpose?* (Count such things as being hit, slammed into something or injured with an object or weapon). The second question gauged sexual IPV and asked respondents: *During the past 12 months, how many times did someone you were dating or going out with force you to do sexual things that you did not want to do?* (Count such things as kissing, touching, or being physically forced to have sexual intercourse.) Both of these measures were dichotomized: any respondent who reported having experienced the victimization one or more times was coded with yes (1) (no was coded as 0). Due to the fact that partner violence was rare, a composite measure of any IPV was created. Any respondents who reported experiencing either physical and/or sexual IPV was coded as a victim (0 = no; 1 = yes). The use of a composite measure has been supported in past research on IPV (see for example: Young, Grey & Boyd, 2009; Livingston, Hequembour, Testa & VanZile-Tamsen, 2007; Vézina et al., 2011).

**Independent Variables**

Independent variables for this study include measures of exposure, guardianship, and target congruence. To facilitate interpretation of the results, each of the measures for the independent variables was dichotomized.

**Exposure.** As discussed above in Chapter 2, Cohen et al., (1981) claimed that if individuals have increased accessibility and visibility to motivated offenders, they are at risk for victimization. Several variables in the National YRBS survey reflect the concept of exposure. These include routine behaviors related to alcohol, tobacco and drug use, sexual activity, involvement in sports teams, strength training activities, and TV and videogame viewership.
Drug use measures included questions about marijuana use and other illicit drugs. Drug use (including marijuana use) is illegal and is considered criminal and a risky behavior. This risky behavior could expose them to motivated offenders as these behaviors can increase the accessibility and availability of victims to offenders. Therefore, those who engage in drug use are more likely to come into contact with motivated offenders (i.e., youth who use substances are likely to come into contact with drug offenders while obtaining/purchasing the drugs). Participants were asked how many times they had used marijuana during their lives. If participants indicated that they had never used marijuana they were coded as no pot use (0) and those who had used it one or more times were coded as having used pot (1). The National YRBS survey includes several measures of illicit drug use. For this analysis, a composite measure of drug use was created based on seven survey items that asked respondents if they had ever used: cocaine, glue, heroin, methamphetamines, ecstasy, steroids, and prescription drugs. If a respondent reported using one or more of the drugs, he/she was coded as a 1 (0 = no).

Another measure gauged the number of sex partners the respondents had in their lifetime. The measure included answers of 0-2 sex partners (0) or 3 or more sex partners (1). This categorization is based on a CDC analysis of 10,341 15-19 year-old students that found that approximately 36% of participants had two or less sex partners and that more than three sex partners was considered to be high and a risky behavior (Chandra, Mosher, & Copen, 2011). Previous research has indicated that sexual promiscuity can allow for an individual to be exposed to an offender. Individuals who have a higher amount of sexual partners may be more likely to come into contact with motivated offenders. In other words, the higher the number of sex partners, the higher the risk of victimization (Bergman, 1992; Gover, 2004).
Alcohol use could increase a youth’s exposure to offenders by placing individuals in settings where there is an increased amount of offenders. For youth, drinking is a status offense and an illegal activity. Like for drugs, youth who drink could be exposing themselves to motivated offenders while obtaining and using alcohol. In order to measure alcohol use, participants were asked a question about the largest number of drinks they have had in a row within a couple of hours over the past 30 days. The initial measure was recoded into three groups: 1) no alcohol consumption, 2) 1 to 4 drinks, and 3) 5 or more drinks. Next, two dummy measures were created from this composite measure and non-drinkers were used as the reference group (Non-binge-drinkers: 0 = Non-drinkers and binge drinkers, 1 = 1-4 drinks; Binge drinkers: 0= Non-drinkers and non-binge drinkers, 1= 5+ drinks).

Two measures were used to gauge television viewing and video game playing. Respondents who viewed TV or videogames less than 2 hours per day (0) were considered as “normal viewership” and those who viewed for 3 or more hours per day (1) were considered “above normal viewership.” This coding is in accordance with recommendations of the American Academy of Pediatrics (CDC, 2010) which recommends youth watch no more than one to two hours of “quality programming” per day. Another exposure measure used in this study is strength training. Respondents who reported spending 2 or less days strength training were coded as 0 and those who reported spending 3 or more days strength training were coded as 1. Another exposure measure that is similar to strength training is involvement in sports. Respondents reported either no involvement (0) in sports teams or involvement with 1 or more teams (1).

In their test of L-RAT among a sample of 541 high school students, Henson and colleagues (2010) referred to “unstructured” lifestyle activities which included time spent in
electronic activities (called e-lifestyles). The researchers argued that the unstructured activities could have an impact on victimization by affecting one’s exposure to motivated offenders. Unstructured time spent with friends in various leisure activities facilitate opportunities for crime. If the youth associated with delinquent peers, the unstructured socializing could lead to victimization regardless of the type of activity. Therefore, if a youth is watching television, playing video games, and strength training with delinquent peers, they could be at a higher risk for victimization. In addition, structured activities such as playing sports can also increase one’s risk of victimization by exposing an individual to potential motivated offenders. Tillyer and colleagues (2010) corroborated this suggestion by finding that physical fitness, participation in exercise, and sport team involvement impacted one’s exposure to motivated offenders and increased risk for victimization.

The last exposure measure used in this analysis was tobacco use. Tobacco use can cause increased exposure to victimization risk for similar reasons to alcohol and drug use. Tobacco use is illegal for anyone under the age of 18. Youth who engage in illegal behavior including tobacco use risk exposing themselves to potential offenders and to victimization (Tillyer et al., 2010). Participants were asked on how many days they smoked a cigarette during the past 30 days. Respondents who reported with no days were coded as 0 and those who reported 1 or more days were coded as 1.

**Target Congruence.** As Finkelhor and Asdigian (1996) established, target congruence refers to personal characteristics (like the physical size of an individual or having experienced emotional deprivation) that might increase victimization, regardless of the routine activity, because these characteristics are desired or hated by the offender and are congruent with the offender’s needs or motives. In other words, certain offenders may be drawn to certain types of
people or certain characteristics of a person, leaving those people more likely to be victimized. This current study uses a respondent’s BMI as a measure for target congruence. BMI could serve as either target antagonism or target vulnerability depending upon the operationalization of the measure. High BMI could reflect the measure of target antagonism. For instance, those with a high BMI could irritate or anger an offender due to their size and which might lead an offender to commit a crime against them. Low BMI could reflect the measure of target vulnerability. Those with a low BMI could be more likely to be victimized because they are of a smaller stature and perceived by the offender as less able to defend themselves.

According to the CDC (2014), BMI, or Body Mass Index, is a number calculated from one’s weight and height. BMI is considered a reliable indicator of the level of body fat for most individuals, including youth. Percentiles are commonly used to assess the size and growth patterns of children in the U.S. One is considered underweight if he or she is in less than the 5th percentile, at a healthy weight if in the 5th to 85th percentile, overweight if in the 85th to less than 95th percentile, and obese at equal to or greater than the 95th percentile. This analysis examines BMI as it has been a risk factor for IPV in past studies (Clark et al., 2014; Pearce, Boergers, & Prinstein, 2002). A BMI for each respondent was calculated according to CDC guidelines based on four questions gauging a respondent’s: 1) age, 2) sex, 3) height and 4) weight. Two dichotomous measures were created from the BMI percentile variable. The first is low BMI (0 = those with a BMI over the 5th percentile, 1 = BMI under the 5th percentile) and the second is high BMI (0 = those with a BMI below the 85th percentile, 1 = BMI over the 85th percentile). The reference group for these measures is normal BMI (BMI between the 5th and 85th percentile).

Guardianship. The presence of a capable guardian (or lack of one) is another factor that can influence an individuals’ risk of victimization. One guardianship measure was used in this
analysis: weapon possession. Guardianship can be formal (e.g., police) or informal (e.g., weapons). Potential offenders are not as likely to victimize an individual if that individual has higher levels of guardianship. Therefore, a youth with the informal guardian of a weapon may be less likely to be victimized because an offender may be discouraged from committing a crime due to the presence of the weapon. Participants were asked on how many days they carried a weapon such as a gun, knife, or club during the past 30 days. Respondents who indicated that they did not carry a weapon were coded as 0 and those who carried a weapon on 1 or more days were coded as 1.

**Control Variables**

Three control variables were included in the analysis. Two of the variables are demographic characteristics: race (0 = Non-white; 1 = White) and sex (0 = female; 1 = male). The remaining variable is school-related: grade. Three dummy variables were created to measure a respondent’s grade: Sophomore (0 = all others; 1 = yes), Junior (0 = all others, 1 = yes), and Senior (0 = all others; 1 = yes). Freshman respondents comprised the reference group. While the survey instrument includes a measure of the respondent’s age, it was not included in the analysis because it was highly related to the grade variable. In order to reduce errors in the statistical models, only grade was included in the analysis. Using grade instead of age in multivariate analyses has been supported in previous studies (Temple & Freeman, 2011; Basile et al., 2006). Grade is also more indicative of where a youth is in their progression as opposed to age. Also, the experiences and education of the youth could be different depending on the grade they are in. For example, a youth could have had more education about risk behaviors as a senior than as a freshman (i.e., health classes providing skills on safe sexual practices and drug prevention are provided to students based on the grade they are in and their age).
Sample Characteristics

Table 4.2 provides sample characteristics for the total sample. The total sample was comprised of 51% male (n = 6,950) and 52.8% non-white (n = 7,167) students. A majority of the students were between the ages of 15 and 17 (n = 9,774). In regard to school-level characteristics, the distribution was relatively evenly spread among the grades. However, 26% of the students were freshmen (N = 3,588) and seniors (N = 3,557) which is slightly higher than sophomores and juniors.

<table>
<thead>
<tr>
<th>Table 4.2: Sample Characteristics</th>
<th>Total Sample¹ (N = 13,583)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual-level characteristics</td>
<td>N (mean)</td>
</tr>
<tr>
<td>Age</td>
<td>13,462 (16.1)</td>
</tr>
<tr>
<td>14 years old</td>
<td>1,368 (10.2)</td>
</tr>
<tr>
<td>15 years old</td>
<td>3,098 (23.0)</td>
</tr>
<tr>
<td>16 years old</td>
<td>3,203 (23.8)</td>
</tr>
<tr>
<td>17 years old</td>
<td>3,473 (25.8)</td>
</tr>
<tr>
<td>18 years old or older</td>
<td>2,320 (17.2)</td>
</tr>
<tr>
<td>Sex</td>
<td>N (%)</td>
</tr>
<tr>
<td>Male</td>
<td>6,950 (51.2)</td>
</tr>
<tr>
<td>Female</td>
<td>6,621 (48.8)</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>N (%)</td>
</tr>
<tr>
<td>White</td>
<td>6,416 (47.2)</td>
</tr>
<tr>
<td>Non-white</td>
<td>7,167 (52.8)</td>
</tr>
<tr>
<td>School-related characteristics</td>
<td>N (%)</td>
</tr>
<tr>
<td>Grade</td>
<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>3,588 (26.6)</td>
</tr>
<tr>
<td>Sophomore</td>
<td>3,152 (23.4)</td>
</tr>
<tr>
<td>Junior</td>
<td>3,184 (23.6)</td>
</tr>
<tr>
<td>Senior</td>
<td>3,557 (26.4)</td>
</tr>
</tbody>
</table>

¹ All numbers may not sum to the total sample size due to missing values.

Hypotheses

This study will examine whether a student’s rape victimization and IPV risk is influenced by their routine activities and their target congruence. Based on the theoretical framework
outlined in previous chapters and the measures that will be used in this study, several hypotheses can be drawn:

Hypothesis #1: Youth with greater levels of exposure will be more likely to be sexually assaulted or report having experienced IPV than those with lower levels of exposure.

1a: In particular, risk-taking behaviors such as alcohol, marijuana, tobacco, and illicit drug use, and having multiple sex partners are hypothesized to be positively related to victimization risk.

1b: Also, team sport involvement and time spent strength training are predicted to be positively related to victimization risk.

1c: Home-based unstructured activities such as those who have a high level of TV and videogame viewership are hypothesized to be positively associated with victimization risk.

Hypothesis #2: Youth with greater levels of guardianship will be less likely to be sexually assaulted or report having experienced IPV than those with lower levels of guardianship. In particular, those who carry weapons on campus are hypothesized to have a lower risk of rape and IPV victimization.

Hypothesis #3: Youth who display characteristics that are congruent with the desires of the offender will be more likely to be victims of sexual assault or to experience IPV. Those with either high (i.e., target antagonism) or low (i.e., target vulnerability) BMIs will be more likely to report a victimization than students with normal BMIs.

**Statistical Analysis**

Both bivariate and multivariate analyses were used to examine the relationship between lifestyle-routine activities measures and victimization risk. Bivariate correlation analyses were conducted to see how the variables were related at the bivariate level. Multivariate binary logistic
regression were also used to analyze the data. This type of analysis is used when there is a dichotomous dependent variable (i.e., victim/non-victim) and multiple independent variables (McDonald, 2014). A nominal variable classifies observations into discrete categories (e.g., victim). Regression attempts to predict the values of a given variable (the dependent or outcome variable) based on the values of one or more other variables (independent or predictor variables). In other words, one goal is to see if the probability of getting a particular value of the nominal variable is associated with the value of the independent variables (McDonald, 2014).

Due to the nature of this study, this specific type of regression was most useful as the aim of this study was to determine how likely a student was to be a victim (a dichotomous event) based on whether he/she engaged in certain behaviors. For each multivariate model, model fit statistics (model chi-square and measures of association) and adjusted odds ratios (AOR) and 95% confidence intervals are provided. SPSS version 20 was used to run all statistical analyses.
Chapter 5: Results

Prevalence of Victimization

Table 5.1 includes prevalence estimates for rape and IPV among the sample. Approximately 12.5% of students reported experiencing violence perpetrated by an intimate partner within the past twelve months and approximately 7.6% reported experiencing rape within their lifetimes.

<table>
<thead>
<tr>
<th>Victimization Type</th>
<th>%</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rape</td>
<td>7.6</td>
<td>1,028</td>
</tr>
<tr>
<td>IPV</td>
<td>12.5</td>
<td>1,641</td>
</tr>
</tbody>
</table>

Bivariate Analysis

Table 5.2 includes bivariate correlations for the measures included in this analysis. The bivariate analysis indicates that there are relationships between rape and IPV and a number of behaviors that are considered to be risky by the lifestyle-routine activities framework. Consistent with expectations, many of the theoretical measures were significantly related to the dependent variables. For instance, marijuana use, illicit drug use, and binge drinking were all positively correlated with both IPV and rape. The number of sex partners and tobacco use were also positively correlated with both of the dependent variables. On the other hand, TV and video game viewership, time spent strength training and involvement in sports did not appear to be strongly correlated with the dependent variables. Taken together, the findings provide evidence that measures from the lifestyle-routine activities framework may help to shed light on why youth may be victims of these two forms of interpersonal violence. Multivariate analyses were
Table 5.1: Bivariate Correlations Between Independent and Dependent Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>(1) Rape</th>
<th>(2) IPV</th>
<th>(3) Smoking</th>
<th>(4) Marijuana Use</th>
<th>(5) Sex Partners</th>
<th>(6) Sports Participation</th>
<th>(7) Illicit Drug Use</th>
<th>(8) TV Viewership</th>
<th>(9) Video game playing</th>
<th>(10) Strength Training</th>
<th>(11) Binge Drinking</th>
<th>(12) Weapon Carrying</th>
<th>(13) BMI</th>
<th>(14) Ethnicity</th>
<th>(15) Age</th>
<th>(16) Sex</th>
<th>(17) Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Rape</td>
<td>1.00</td>
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<tr>
<td>(2) IPV</td>
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<td>.36**</td>
<td>1.00</td>
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<td>(3) Smoking</td>
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<td>.12**</td>
<td>.14**</td>
<td>1.00</td>
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<tr>
<td>(4) Marijuana Use</td>
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<td></td>
<td></td>
<td>.14**</td>
<td>.15**</td>
<td>.39**</td>
<td>1.00</td>
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<tr>
<td>(5) Sex Partners</td>
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<td></td>
<td></td>
<td>.21**</td>
<td>.17**</td>
<td>.31**</td>
<td>.39**</td>
<td>1.00</td>
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<td>(6) Sports Participation</td>
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<td>(7) Illicit Drug Use</td>
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<td>(8) TV viewership</td>
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<td>(9) Video game playing</td>
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<td>(10) Strength Training</td>
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<td>(11) Binge Drinking</td>
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61
Table 5.1: Bivariate Correlations Between Independent and Dependent Variables, continued

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<tr>
<th>Variables</th>
<th>(1) Rape</th>
<th>(2) IPV</th>
<th>(3) Smoking</th>
<th>(4) Marijuana Use</th>
<th>(5) Sex Partners</th>
<th>(6) Sports Participation</th>
<th>(7) Illicit Drug Use</th>
<th>(8) TV Viewership</th>
<th>(9) Video game playing</th>
<th>(10) Strength Training</th>
<th>(11) Binge Drinking</th>
<th>(12) Weapon Carrying</th>
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<th>(15) Age</th>
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<td>-.05**</td>
<td>-.08**</td>
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<td>1.00</td>
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</table>

** p < .01  
* p < .05
conducted to determine if these bivariate relationships remained once they were all controlled for within the same model.

**Multivariate Analysis: Rape**

Results from the multivariate binary logistic regression models are presented in Table 5.3. This analysis was conducted on the full sample of male and female youth in the study to examine the effects of illicit drug use, drinking, tobacco use, multiple sex partners, time spent strength training, BMI, involvement in sports teams, and television and video game viewership on rape victimization (n = 9,597). Results from this analysis demonstrate that several of the measures from the lifestyle-routine activities framework were significantly related to rape victimization.

**Exposure Measures**

The analyses indicate that many of the exposure measures were found to increase a respondent’s likelihood of experiencing rape victimization. Risk-taking behaviors, in particular, were significant. For instance, students who reported smoking marijuana were significantly more likely to report having been raped in their lifetimes (AOR = 1.29, 95% CI 1.04-1.62). Illicit drug use was also significant. Students who reported illicit drug use in the past year were over two times more likely to have been raped than students who did not use illicit drugs (AOR = 2.03, 95% CI 1.66-2.48). Students who reported binge drinking were more likely to report being raped in their lifetime than non-drinkers (AOR = 1.24, 95% CI .92-1.59). Also of significance

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4 Given the fact that the rape and IPV measures both gauge non-consensual sexual behavior, there is possible overlap of the measures. That is, a respondent who was raped by an intimate partner could have been coded as both a rape and IPV victim. In order to determine that the two dependent variables were independent measures, analyses on the IPV measure were ran excluding the respondents who reported yes to both the rape and sexual IPV survey items. Results from these analyses indicated that there were similar findings across the two models (see Appendix B for multivariate binary logistic regression models estimating IPV with rape victims excluded). In order to retain cases and to reduce the likelihood of excluding those who were raped by non-intimate partners, analyses were conducted on the full sample.
was video game viewership and the number of sex partners. Those who spent time playing video games were more likely to report being raped (AOR = 1.23, 95% CI 1.04-1.47). In addition, those who reported a higher number of sex partners were also more likely to have reported ever being raped than those with two or less lifetime sexual partners (AOR = 3.83, 95% CI 3.12-4.71).

Despite many significant relationships, some exposure measures were not significantly related to rape. For instance, contrary to expectations, sports involvement was not significant. Tobacco use was also not shown to be significant. Finally, strength training and non-binge drinking were not found to be significant and, therefore, were not related to the likelihood of being raped.

**Guardianship Measure**

The analyses indicate that carrying a weapon on campus was related to rape victimization (AOR = 1.88, 95% CI 1.49-2.38). Those who carried a weapon were more likely to report being a victim of rape. This is contrary to this study’s hypothesis that carrying a weapon would act as a guardian and reduce the likelihood of victimization.

**Target Congruence Measures**

The analyses indicate that a low BMI was not found to be significantly related to rape victimization. However, those with a high BMI were more likely to report being victims of rape than those with a normal BMI (AOR = 1.33, 95% CI 1.11-1.60). This finding is consistent with this study’s hypotheses and past research on IPV that obese youth were more likely to report a victimization experience.
Control Variables

Similar to much of the previous lifestyle-routine activities framework research on youth sexual assault victimization, the only demographic measure found to be significant was gender (AOR = .17, 95% CI .14-.22). In particular, females were almost 6 times more likely to be victims of rape than males. Neither grade or race was significantly associated with rape victimization.
Table 5.2: Binary Logistic Regression Results for Rape (N = 9,597)

<table>
<thead>
<tr>
<th>Variables</th>
<th>b</th>
<th>(s.e.)</th>
<th>AOR</th>
<th>(95% CI)</th>
</tr>
</thead>
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<tr>
<td><strong>Exposure</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Smoking</td>
<td>.03</td>
<td>(.12)</td>
<td>1.03</td>
<td>(.81-1.29)</td>
</tr>
<tr>
<td>Marijuana Use</td>
<td>.26*</td>
<td>(.11)</td>
<td>1.29</td>
<td>(1.04-1.62)</td>
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<tr>
<td>Number of Sex Partners</td>
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<td>(.10)</td>
<td>3.83</td>
<td>(3.12-4.71)</td>
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<td>Involvement in Sports</td>
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<td>1.01</td>
<td>(.84-1.21)</td>
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<td>1.05</td>
<td>(.88-1.27)</td>
</tr>
<tr>
<td>Videogame Viewership</td>
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<td>1.23</td>
<td>(1.04-1.47)</td>
</tr>
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<td>1.06</td>
<td>(.88-1.28)</td>
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<td>Binge Drinking</td>
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<td>(.13)</td>
<td>1.24</td>
<td>(.96-1.59)</td>
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<td><strong>Guardianship</strong></td>
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<td>(1.48-2.38)</td>
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<td><strong>Target Congruence</strong></td>
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<td>1.07</td>
<td>(.62-1.85)</td>
</tr>
<tr>
<td>High BMI</td>
<td>.29*</td>
<td>(.09)</td>
<td>1.33</td>
<td>(1.11-1.60)</td>
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<tr>
<td><strong>Demographic Characteristics</strong></td>
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</tr>
<tr>
<td>Ethnicity</td>
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<td>(.09)</td>
<td>.97</td>
<td>(.81-1.16)</td>
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<td>.17</td>
<td>(.14-22)</td>
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<td>1.11</td>
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<td>Junior</td>
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<td>(.14)</td>
<td>.89</td>
<td>(.68-1.16)</td>
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<td>Senior</td>
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<td>(.13)</td>
<td>.98</td>
<td>(.76-1.27)</td>
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<tr>
<td>Model chi square</td>
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</tr>
<tr>
<td>-2 Log Likelihood</td>
<td>3910.51</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < .05
+ p < .10
Multivariate Analyses: IPV

Results from the multivariate binary logistic regression models predicting IPV are presented in Table 5.4. Like with the rape victimization model, this analysis was conducted on the full sample of male and female youth (n = 9,403). Results from this analysis indicate that many of the measures from the lifestyle-routine activities framework were significantly related to IPV.

Exposure Measures

Similar to the rape model, risk-taking behaviors were significantly related to increased risk of partner violence. However, unlike for rape, tobacco use was significantly related to IPV risk. Those who reported having used tobacco were more likely to report being a victim of IPV within the last year (AOR = 1.26, 95% CI 1.04-1.52). Students who used marijuana (AOR = 1.28, 95% CI 1.03-1.45) were more likely to report IPV victimization during the past year than those who did not smoke marijuana. In addition, the number of sex partners (AOR = 1.91, 95% CI 1.62-2.26) was positively related to victimization, in particular, those with three or more lifetime sexual partners were more almost twice as likely to report IPV than those with 2 or less intimate partners. Illicit drug users (AOR = 1.86, 95% CI 1.58-2.18) were more likely to report IPV victimization during the past year than those who never used illicit drugs.

Alcohol use was also related to IPV risk. Both binge drinkers (AOR = 1.68, 95% CI 1.37-2.06) and non-binge drinkers (AOR = 1.36, 95% CI 1.14-1.62) were more likely to report IPV than those who never drank alcohol. In addition, those who played video games frequently were also more likely to be victimized (AOR= 1.26, 95% CI 1.09-1.45). Finally, those who spent three or more days strength training (AOR = 1.16, 95% CI 1.01-1.35) were more likely to be victims of IPV than those who spent two or less days strength training.
There were two exposure measures that were not significant to IPV. Television viewership was not found to be significant. This was also the case for sports team involvement.

**Guardianship Measure**

The guardianship measure used in this study was carrying a weapon on campus. This was found to be significantly related to IPV. Those who carried a weapon (AOR = 1.73, 95% CI 1.43-2.08) were more likely to be victims of IPV than those who never carried a weapon. As with the rape model, this is contrary to theoretical expectations and this study’s hypotheses.

**Target Congruence Measures**

In this study, BMI was used as a target congruence measure. Analyses indicate that low BMI was not related to IPV victimization. However, high BMI (AOR = .83, 95% CI .72-.97) was found to be negatively related to IPV meaning that those with a higher BMI were less likely to be victims of IPV than those with a normal BMI. This finding is contrary to this study’s hypothesis, and past research that found that high BMI was positively and not negatively related to IPV risk (see Clark et al., 2014).

**Control Variables**

Table 5.2 shows that the only significant demographic measure for IPV was gender (AOR = .26, 95% CI .22-.31). Again, this is consistent with previous lifestyle-routine activities research on IPV and youth. In particular, females were almost four times more likely to experience IPV than their male counterparts. Grade level and race were not related to IPV.
Table 5.3 Binary Logistic Regression Results for IPV (N = 9,403)

<table>
<thead>
<tr>
<th>Variables</th>
<th>b (s.e.)</th>
<th>AOR (95% CI)</th>
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<tr>
<td><strong>Exposure</strong></td>
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<td></td>
</tr>
<tr>
<td>Smoking</td>
<td>.23* (.09)</td>
<td>1.28 (1.04-1.52)</td>
</tr>
<tr>
<td>Marijuana Use</td>
<td>.19* (.09)</td>
<td>1.22 (1.03-1.45)</td>
</tr>
<tr>
<td>Number of Sex Partners</td>
<td>.65* (.08)</td>
<td>1.91 (1.62-2.26)</td>
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<tr>
<td>Involvement in Sports</td>
<td>.12 (.07)</td>
<td>1.13 (.98-1.29)</td>
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<td>Illicit Drug Use</td>
<td>.62* (.08)</td>
<td>1.86 (1.58-2.18)</td>
</tr>
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<td>TV Viewership</td>
<td>.05 (.07)</td>
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<td>Videogame Viewership</td>
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<td>Time Spent Strength Training</td>
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<td>Carrying a Weapon</td>
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<td><strong>Target Congruence</strong></td>
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<tr>
<td>Low BMI</td>
<td>.14 (.20)</td>
<td>1.15 (.77-1.71)</td>
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<tr>
<td>High BMI</td>
<td>-.18* (.08)</td>
<td>.83 (.72-.97)</td>
</tr>
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<tr>
<td>Ethnicity</td>
<td>-.11 (.07)</td>
<td>.89 (.78-1.03)</td>
</tr>
<tr>
<td>Sex</td>
<td>-1.34* (.08)</td>
<td>.26 (.22-.31)</td>
</tr>
<tr>
<td>Sophomore</td>
<td>.01 (.10)</td>
<td>1.01 (.83-1.23)</td>
</tr>
<tr>
<td>Junior</td>
<td>-.15 (.10)</td>
<td>.86 (.71-1.06)</td>
</tr>
<tr>
<td>Senior</td>
<td>-.06 (.10)</td>
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<td>3910.51</td>
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* p < .05
Chapter 6: Discussion and Conclusion

Summary of the Findings

The analyses of this study were undertaken in an effort to examine what types of routine activities that youth engage in that put them at risk for sexual assault and IPV. As the analyses in Chapter 5 illustrate, many of the risk factors examined in this study were significantly related to rape and IPV. On the other hand, some of the measures included in this analysis that were significant in past studies, were not found to be significantly related to the dependent variables. A summary and discussion of the analyses from the multivariate binary logistic regression analyses are provided below.

Hypothesis 1

According to the lifestyle-routine activities framework, the lifestyles and routine activities of an individual could bring them into contact with potential offenders in the absence of capable guardians. Exposure is the visibility and accessibility of the individual to potential offenders at any given time and place (Cohen et al., 1981). Past research on youth rape victimization and rape has shown that certain behaviors that are considered risky increase the likelihood for victimization. Illegal activities for youth such as tobacco use, drug use, and drinking increase exposure because these activities are typically done in a deviant peer group. This study hypothesized that risk-taking behaviors can have an impact on rape victimization and IPV by increasing one’s risk of victimization due to exposure to motivated offenders.

The first hypothesis of this study was that certain risk-taking behaviors such as alcohol, tobacco and drug use (e.g., marijuana and illicit), as well as having multiple sex partners was positively related to both sexual assault and IPV victimization. Team sport involvement, time
spent strength training, and high levels of television and video game viewership were also hypothesized to be positively related to a student’s likelihood of experiencing rape and IPV.

The data showed that smoking was not significant in the rape model. However, it was in the IPV model. Students who smoked were 1.28 more times likely to be victims of IPV than those who did not smoke. Research has suggested that engaging in illegal behaviors can increase the risk for victimization and could indicate delinquent peer associations (Tillyer et al., 2010). The findings from the IPV model may indicate that those who smoke may also be associating with, or even dating, delinquent peers. Therefore, their exposure to potential offenders could be higher and they may be at more risk for IPV victimization. The results from the rape model are not consistent with past research. One reason may be that past studies that have examined sexual assault victimization often examine only a limited number of variables. It may be that effect of tobacco use on rape victimization decreases once controlling for other more serious risk-taking behaviors such as drug and alcohol use.

Past research has found that those who use marijuana are more likely to be victimized. This study’s findings were consistent with this research. For instance, marijuana use was related to both IPV and rape victimization. Students who smoked marijuana were 1.22 more times likely to be victims of IPV and 1.29 times more likely to be victims of rape. Like marijuana use, illicit drug use was found to be significant. Again, this is consistent with past research that has suggested that those who engage in illicit drug use are more likely to be victims of rape and IPV (Basile et al., 2006; Young, Grey & Boyd, 2009; Gover, 2004). Illicit drug users were almost two times more likely to be victims of IPV and slightly over two times more likely to be victims of rape. Due to the fact that drug use is an illegal activity, those who engage in these types of behaviors increase their exposure to motivated offender and their likelihood for victimization.
(i.e., drugs are typically done in groups of delinquent youth who are possible motivated offenders). The use of these substances can also increase risk because they hinder the ability of the victim to resist attacks from the offender. These findings suggest that the youth who are involved in these behaviors and are victims of IPV and rape could be associating with or, in the case of IPV, dating the offender. Temple and Freeman (2011) have suggested that this could be the case as substance use by victims is related to substance use by the perpetrator. For example, if a youth uses a substance on a date, it is likely that their partner (and potential offender) is also using.

Sexual promiscuity has been linked to an increased risk for rape victimization and IPV (Gover, 2004). In a study, the CDC found that approximately 36% of youth had less than 2 sexual partners and three or more partners was considered a health risk and part of a deviant lifestyle. A youth’s level of exposure to an offender can increase with the number of sex partners that they have. Ramisetty-Mikler and colleagues (2006) found that the number of sex partners was related to victimization risk. The results of this study are consistent with this research as the number of sex partners was highly related in both of the victimization models. Those with a higher number of sex partners were almost two times more likely to be victims of IPV and almost four times more likely to be victims of rape.

Alcohol use is a common exposure measure used in youth rape victimization and IPV research. For youth, alcohol is generally consumed in groups of people at parties or other gatherings. These types of gatherings can provide offenders with victims who have a reduced ability to defend themselves. Research has shown that drinking is a risk factor for both rape and IPV victimization (Howard, Qiu, & Boekeloo, 2003; Gover, 2004; Temple & Freeman, 2011). Consistent with this research was that finding that binge drinking, along with drinking in general,
was related to IPV victimization. Those who binge drink were over 1.5 times more likely than non-drinkers to be IPV victims and those who drink in general were over 1.3 times more likely than non-drinkers to be IPV victims. Unexpectedly, non-binge drinking was not related to rape victimization and binge-drinking was only related to rape at the .10 probability level. This could be due to the lifetime reference period of the rape measure in the YRBS survey (see below for more detailed discussion of the reference period limitations). An individual could have been raped earlier on in life and not currently be a drinker.

The way that youth spend their structured and unstructured time can impact their exposure to motivated offenders. Unstructured activities are mainly conducted during a youth’s free time. Examples of this are electronic activities such as television viewership and time spent playing video games. Television viewership was not related to either rape or IPV. However, those who played video games for lengthy amounts of time were 1.25 times more likely to be victims of IPV and 1.23 times more likely to be victims of rape. The nature of the relationship of video game playing to rape victimization and IPV was as hypothesized. While there are video games that are played only by the individual, there are games that are played with a team of people or can be played with two or more individuals at the same time. Given this, these findings may suggest that youth are playing video games with other people, including potential offenders. Another example of an unstructured activity that could expose a youth to a motivated offenders is time spent strength training. Time spent strength training was related to IPV victimization only; youth who strength-trained more often were more likely to have reported being an IPV victim. This finding was consistent with Tillyer et al.’s (2010) analysis that found that those who strength trained were more likely to be at risk due to exposure to potential offenders. Like for
video game playing, if a youth is engaging in this unstructured activity with an intimate partner (i.e., the potential motivated offender) it could increase their risk of victimization.

Similar to unstructured activities, structured activities can also have an impact on a youth’s exposure to potential motivated offenders. An example of a structured activity is involvement in sports teams. Playing a team sport is a common exposure measure included in past studies (see Henson et al., 2010). Contrary to the hypothesis and past research, the results from this study’s analysis showed that sport team involvement was not related to either measure of victimization. This could be that the sports teams that the participants are involved in are providing guardianship to reduce victimization (i.e., pro-social players, coaches, parents, audience) and victimization is being blocked regardless of the increased exposure to potential motivated offenders.

**Hypothesis 2**

The guardianship measure used for this study was carrying a weapon on campus. It was hypothesized that youth with greater levels of guardianship would be less likely to be sexually assaulted or report having experienced IPV than those with lower levels of guardianship. In particular, carrying weapons on campus was expected to be negatively associated with victimization risk. The results provided by the analyses demonstrated the opposite of this hypothesis. Those who carried a weapon were almost two times more likely than those who did not to be victims of IPV and rape. This is a concern as previous research and theory has suggested that carrying weapons acts as an informal guardian and should reduce the likelihood for victimization. It is possible that the positive relationships observed in the analysis were the result of cross-sectional data and the inability to unpack temporal order in the relationship. That is, a victimization could possibly lead to individuals carrying a weapon and that is why there is a
positive relationship between victimization and guardianship measures. Fear of crime and victimization after a personal experience could potentially drive a student to carrying a weapon as a protection measure. Given the nature of this data, this study cannot establish whether the victimization came before or after the weapon possession. On the other hand, the positive relationship between weapon possession and victimization may not be a reflection of a temporal order problem, but could be an indicator of risk-taking or delinquent behaviors such as gang membership that have been associated with victimization (Schreck, Miller & Gibson, 2003).

**Hypothesis 3**

Another hypothesis examined in this study was whether youth who displayed characteristics congruent with the desires of the offender would be more likely to be victims of sexual assault or IPV. Youth who are overweight or concerned about their weight have been found to report lower levels of self-esteem and depression than those at a normal weight or those who are not concerned about their weight (Mueller et al., 1995). It is possible that these factors could in turn affect one’s selection of an intimate partner. In other words, youth with a high BMI could potentially settle for partners that are abusive due to their own beliefs that they are not worthy of a quality partner due to their weight. The target congruence measure utilized in this study was BMI. It was hypothesized based on theory and past research that those with high and low BMIs would be more likely to experience victimization than those with BMIs in the normal range. The results showed that low BMI was not related to either form of victimization. Contrary to expectations, high BMI was negatively associated with IPV. This means that those with a higher BMI were less likely than those with a normal BMI to be victims. Previous research has shown mixed results on the impact of BMI on rape and IPV victimization. Clark and colleagues (2014) found that females with higher BMIs were more likely to victims of IPV than females
with normal BMIs. Further, Pearce, Boergers and Prinstein (2001) found that obese girls reported higher levels of IPV than average-weight girls.

Despite the findings in these studies, those who have a high BMI as a youth may be less likely to marry as adults and less likely to be in a dating relationship during their youth (Pearce, Boergers & Prinstein, 2001). Given this, a measure of the current relationship status of the youth and/or of the number of relationships they have been in might have impacted the results. While high BMI was negatively associated to IPV victimization, it was positively related to rape victimization. Those who reported a high BMI experienced an elevated risk rape victimization. This is consistent with previous research that has found that those with a higher BMI are more likely to be victims of rape. This finding is also consistent with theoretical expectations and Finkelhor and Asdigan’s (1996) concept of target antagonism. Those with a high BMI may be more likely to be raped because the characteristic of being overweight triggers anger or irritation in the offender. This could cause the offender to want to victimize that individual. Individuals with a high BMI can be viewed as less attractive and, therefore, less worthy of positive treatment and less likely to resist physical attacks from an offender (Pearce, Boergers & Prinstein, 2001). This finding is important because it could have implications on policies that seek to encourage healthy living and eating behaviors.

This study explored the lifestyle-routine activities framework and youth IPV and rape victimization. Based on this framework and results from the analyses of this study, it is clear that certain risk-taking behaviors increase victimization risk for youth (e.g., multiple sex partners, marijuana, alcohol and illicit drug use). The results showed that those who participated in behaviors such as drinking and drug use were more likely to be victims of IPV and rape. Because of this, it is helpful to look at victimization within this framework as it can provide direction on
what types of activities to discourage youths from participating in. The analyses from this study added to the previous literature that suggests that the framework is predictive of risk for both males and females.

**Policy Recommendations**

As this study and others have demonstrated, increasing rates of sexual violence among youth is a problem that continues to be of concern to researchers and practitioners. In turn, increased attention has been placed on understanding the risk factors for sexual violence and identifying ways to reduce its occurrence among youth. Given the strong relationship between risk-taking behaviors and victimization, one of the most effective ways to reduce victimization among youth may involve discouraging youth involvement in risk-taking behaviors. Past research studies have examined programs aimed at reducing risk-taking behaviors. Wagenaar and Perry (1994) evaluated previous prevention programs and then, based on those evaluations, suggested effective programs for the future. Youth alcohol consumption can be influenced by a wide-range of factors including social structures, norms, and other aspects of the social environment. Patterns of drinking in youth are not indicative of addictive behavior, but, rather, of expected results of social influences and norms. Because of this, prevention efforts must show an understanding of what influences youth to drink and target the various factors that influence alcohol consumption among this population. Therefore, a population-focused approach can be more effective than an individual-based approach. For example, parents and the community as a whole need to be educated about youth drinking and its causes due to the fact that they play an important role in influencing its occurrence.

In keeping with these ideas, Wagenaar and Perry (1994) evaluated the Midwestern Prevention Project. This project consisted of a 10-session school-based curriculum with 10
homework assignments to be completed by the parents. The project also incorporated radio, print and television ads and community organization that discouraged alcohol use and encouraged other forms of pro-social behavior. Both the parental homework assignments and the ads educated students on the effects of substance abuse. After the first two years of the project, analyses from youth in 42 schools that participated in the study indicated a lower prevalence rate of cigarette, alcohol, and marijuana use than the schools that did not participate. Based on this evaluation, Wagenaar and Perry (1994) suggested that schools should implement similar programs in their communities to reduce alcohol use and abuse among 15- to 20- year-olds. The program seeks to empower communities to change policies and practices regarding the accessibility of alcohol to youth. The overall goal of the program is to reduce alcohol consumption among those under age 21 and, in so doing, reduce injury, morbidity, and the other health and social problems (e.g., rape victimization and IPV) related to alcohol use among youth. While the program is targeted specifically on alcohol use, drawing on the same methodology, drug use prevention could also potentially be incorporated into this type of program (especially if the program focused on high-risk populations).

Gottfredson and Wilson (2003) examined results from studies of school-based prevention programs for alcohol and other drugs. They wanted to determine what features of the programs are most related to the positive outcomes of the programs. Some of these programs have incorporated resistance-skills and training to youth about how to resist the social influences that tell that substance abuse is acceptable and encouraged. Others, like the program mentioned previously, focus on parent and community involvement to change youth thinking on the use of substances. Based on their evaluation of 94 programs, Gottfredson and Wilson (2003) found that targeting high-risk populations of youth may be more effective than targeting the entire group of
youth. High-risk populations may be more involved in substance abuse than those who are low-risk. The high-risk population may also be committing most of the crimes associated with substance abuse. Drawing from the lifestyle-routine activities framework and related research on youth victimization and delinquency, anyone associating with these high-risk youth may be just as likely to be involved in these activities (i.e., the principle of homogamy). Therefore, programs targeting high-risk youth may both decrease delinquency and victimization at the same time. The evaluation also suggested that longer programs are not necessarily more effective. What they assert is more important is the intensity and overall content of the program. Finally, the role of the person delivering the prevention message is important. The programs that were carried out by youth peers were found to be more effective than those that were carried out by teachers and other school leaders alone (Gottfredson & Wilson, 2003).

Hawkins and colleagues (1992) suggested that the most effective route for preventing youth alcohol and other drug problems is through a risk-focused approach. A risk-focused approach to prevention programming seeks to eliminate or reduce the precursors of behavior or risk factors that lead one to use substances. Two risk factors that are most often addressed in prevention programs are the laws and norms favorable to drug use and social influences to use drugs. Of other importance are early and persistent behavior problems. These can lead to use of drugs, alcohol, and marijuana later on in life. Hawkins et al. (1992) assert that low bonding to family is also an important risk factor for substance abuse. If a youth has a negative relationship with their family, they may be less likely to spend time at home under the guardianship of their parents and may spend more time with delinquent peer groups which in turn leads to increased victimization risk (through risk-taking behaviors such as drug and alcohol use). Knowing this, the researchers found that the most effective programs aimed at reducing substance abuse
focused on early childhood education and early family support. They also had parent training components and a heavy emphasis on schools discouraging substance abuse. Plans also encouraged a strong bond between parent and youth as that attachment can weaken the effect that drug-using peers may have on the youth (Hawkins et al., 1992).

Flay and colleagues (2004) tested the effectiveness of two programs designed to reduce high-risk behaviors among inner-city African American youth. The curriculum of the first program consisted of lessons focusing on the social competence skills needed to manage situations in which risky behaviors could occur. The second program was similar to the first program but also incorporated parent and community components. They found no significant effects for females in the study. However, among males, the programs significantly reduced violent behavior, provoking behavior, school delinquency, drug use, and recent sexual intercourse (Flay et al., 2004). Despite the program having no significant impact on females, the program is still important and could be implemented elsewhere. Regardless of the gender, programs that incorporate stronger family and community bonds have been shown to be more successful (see Hawkins et al., 1992). Also, if males are discouraged from participating in risk-taking behaviors, than perhaps females will also be discouraged as a result. The lifestyle-routine activities framework suggests that youth who associate with delinquent peers are more likely to be victimized because of their increased exposure to offenders. These groups of peers may be of mixed gender. Therefore, the behaviors of the males in the group could have an impact on the females of the group by potentially spreading the anti-substance abuse message to the females. Reduction in these risk behaviors may lead to a reduction in motivated offenders and victimization.
Taken together, these studies show the importance of consistent and constant messages when trying to dissuade youth from risky behavior involvement. Youth are shown through society that engaging in these behaviors is normal and acceptable. Prevention programs need to change this thinking and show youth the dangers of the behavior. The messages need to be shared at many levels including in schools, at home and in other community environments. Society itself needs to make a change before the change can be permanent in youth. If changes can be made, there may be a reduction in the amount of crimes committed and in the number of youth who are victimized. This, in turn, is likely to have a positive impact on the youth’s overall health and well-being. For instance as Young, Grey and Boyd (2009) assert, victimization has a wide-range of negative consequences on youth adversely impacting their home, peer, and school life. By reducing risk-taking behaviors, it may be possible to reduce victimization risk and in turn prevent youth from experiencing negative effects of victimization that could impact them across their life course.

**Limitations of Study**

This study had several limitations that are worth noting. One limitation includes the reference periods for the questions in the YRBS survey were not consistent across survey items. Some of the questions were lifetime use measures while others only asked about activities or experiences within the past 30 days or 12 months. This could cause inconsistencies in responses from participants. For example, a youth could have smoked marijuana during their life, but not since being in high school or recently. However, due to the question being a lifetime exposure measure, it is only known that they have used pot during their lifetimes. This could have affected the results because the risky behavior that a student engaged in may have happened long before the victimization occurred or vice versa. For example, the student may have smoked marijuana in
middle school but was not a victim of rape until they were in high school. That student may no
longer be engaged in the risky behavior of marijuana use, but in the analyses, they have been
coded as a pot user. In sum, this reference period inconsistency may have impacted the analyses.

Another limitation is the lack of some fairly common measures used in IPV research. The
survey instrument only asks about victimization within a relationship. It does not ask if the
respondents are currently in a relationship or have been dating which is a common measure and
control variable in this line of research. It is possible that the inclusion of those who have never
dated impacted the results. For example, the results might differ if youth were asked if they were
in a current relationship and if they were experiencing IPV in that relationship or not. A related
limitation includes the YRBS’s operationalization of sexual victimization. The survey only
includes a measure of the least common form of sexual violence, rape. Many past studies of
youth utilize a broader measure of sexual violence that includes acts ranging from unwanted
sexual contact to forced intercourse. Results from the analyses may have been different if a
broader measure was utilized.

Finally, the last limitation of this analysis includes the use of cross-sectional data which
cannot unpack the temporal order between the victimization measures and the measures from the
lifestyles-routine activities framework. Due to the data being cross-sectional and not
longitudinal, it is not possible to determine which behavior preceded the other in time. For
example, a student could have been raped and then started to drink after the rape. Or, perhaps
someone experienced IPV and then started strength training as a measure of self-protection.

Suggestions for Future Research

Future research could benefit from the inclusion of measures that have consistent
reference periods with all experiences or exposures occurring during the same time period. This
would allow for more accurate data. If each measure has the same reference period, then it would be easier to determine if the risk behavior did truly lead to victimization. Future studies on students could also include more measures of lifestyle-routine activities including proximity, guardianship, and target attractiveness. While measures of exposure are quite common, rich measures of the other theoretical concepts are rare. Future studies could ask questions regarding time spent with formal guardians such as parents (i.e., guardianship). They could also ask questions about the types of neighborhoods that the youth live in (i.e., proximity) to determine if the youth lives in an area that already has high crime rates or could lead to more opportunities to converge with offenders in time and space.

The CDC YRBS data could be strengthened by broadening their measurement of sexual assault. Currently, the survey only estimates rape. However, based on past studies rape, is not the most common form of sexual violence experienced by youth (Young, Grey, & Boyd, 2009). Other forms such as unwanted sexual attention including harassment (written and verbal) could be added to paint a clearer picture of the victimization of youth.

Finally, research could focus in more on the effects of healthy lifestyle behaviors (e.g., eating vegetables and fruits, frequent exercising) on IPV and rape victimization. Clark and colleagues (2014) suggested that the effects of being overweight can be detrimental not only to the psychological well-being of a youth, but also to the physical well-being. While there were mixed findings on the effects of BMI on rape victimization and IPV, there is the potential that being overweight can lead to victimization (Clark et al., 2014). Based on this, it is possible that living a healthier lifestyle could reduce a youth’s BMI and therefore their victimization risk. Future research that further explores these relationships could be valuable for the development of prevention programs and illuminating these relationships.
Conclusion

Since the mid-1990’s the U.S. has experienced a substantial decrease in the crime rate (see BJS, 2014). While this general trend is true for youth as well, youth are still among some of the highest-risk age populations in the U.S. More specifically, they are among the populations that have the highest rates of interpersonal violence including for rape victimization and IPV. This concern is underscored in findings from past research which indicates that youth are at risk of experiencing interpersonal violence and that their likelihood of experiencing these forms of violence is partially a function of their routine activities and lifestyle characteristics (see Finkelhor & Asdigian, 1996). The results of this study contribute to this body of research and shed more light on the behaviors that increase a youth’s likelihood of experiencing sexual victimization and IPV. This body of research is valuable for providing school administrators, policymakers, and the public with information that can help inform policies and programs aimed at preventing victimization among youth.
Appendix A

2013 National Youth Risk Behavior Survey

This survey is about health behavior. It has been developed so you can tell us what you do that may affect your health. The information you give will be used to improve health education for young people like yourself.

DO NOT write your name on this survey. The answers you give will be kept private. No one will know what you write. Answer the questions based on what you really do.

Completing the survey is voluntary. Whether or not you answer the questions will not affect your grade in this class. If you are not comfortable answering a question, just leave it blank.

The questions that ask about your background will be used only to describe the types of students completing this survey. The information will not be used to find out your name. No names will ever be reported.

Make sure to read every question. Fill in the ovals completely. When you are finished, follow the instructions of the person giving you the survey.

Public reporting burden for this collection of information is estimated to average 45 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: CDC Reports Clearance Officer, 1600 Clifton Road, MS D-74, Atlanta, GA 30333, ATTN:PRA (0920-0493)

Thank you very much for your help.
DIRECTIONS: Use a #2 pencil only. Make dark marks.

1. How old are you?
   A. 12 years old or younger
   B. 13 years old
   C. 14 years old
   D. 15 years old
   E. 16 years old
   F. 17 years old
   G. 18 years old or older

2. What is your sex?
   A. Female
   B. Male

3. In what grade are you?
   A. 9th grade
   B. 10th grade
   C. 11th grade
   D. 12th grade
   E. Ungraded or other grade

4. Are you Hispanic or Latino?
   A. Yes
   B. No

5. What is your race? (Select one or more responses.)
   A. American Indian or Alaska Native
   B. Asian
   C. Black or African American
   D. Native Hawaiian or Other Pacific Islander
   E. White

6. How tall are you without your shoes on?
   Directions: Write your height in the shaded blank boxes. Fill in the matching oval below each number.

7. How much do you weigh without your shoes on?
   Directions: Write your weight in the shaded blank boxes. Fill in the matching oval below each number

The next 5 questions ask about safety.
8. When you rode a bicycle during the past 12 months, how often did you wear a helmet?
   A. I did not ride a bicycle during the past 12 months
   B. Never wore a helmet
   C. Rarely wore a helmet
   D. Sometimes wore a helmet
   E. Most of the time wore a helmet
   F. Always wore a helmet

9. How often do you wear a seat belt when riding in a car driven by someone else?
   A. Never
   B. Rarely
   C. Sometimes
   D. Most of the time
   E. Always

10. During the past 30 days, how many times did you ride in a car or other vehicle driven by someone who had been drinking alcohol?
    A. 0 times
    B. 1 time
    C. 2 or 3 times
    D. 4 or 5 times
    E. 6 or more times

11. During the past 30 days, how many times did you drive a car or other vehicle when you had been drinking alcohol?
    A. I did not drive a car or other vehicle during the past 30 days
    B. 0 times
    C. 1 time
    D. 2 or 3 times
    E. 4 or 5 times
    F. 6 or more times

12. During the past 30 days, on how many days did you text or e-mail while driving a car or other vehicle?
    A. I did not drive a car or other vehicle during the past 30 days
    B. 0 days
    C. 1 or 2 days
    D. 3 to 5 days
    E. 6 to 9 days
    F. 10 to 19 days
    G. 20 to 29 days
    H. All 30 days

The next 11 questions ask about violence-related behaviors.
13. During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club?
   A. 0 days
   B. 1 day
   C. 2 or 3 days
   D. 4 or 5 days
   E. 6 or more days

14. During the past 30 days, on how many days did you carry a gun?
   A. 0 days
   B. 1 day
   C. 2 or 3 days
   D. 4 or 5 days
   E. 6 or more days

15. During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club on school property?
   A. 0 days
   B. 1 day
   C. 2 or 3 days
   D. 4 or 5 days
   E. 6 or more days

16. During the past 30 days, on how many days did you not go to school because you felt you would be unsafe at school or on your way to or from school?
   A. 0 days
   B. 1 day
   C. 2 or 3 days
   D. 4 or 5 days
   E. 6 or more days

17. During the past 12 months, how many times has someone threatened or injured you with a weapon such as a gun, knife, or club on school property?
   A. 0 times
   B. 1 time
   C. 2 or 3 times
   D. 4 or 5 times
   E. 6 or 7 times
   F. 8 or 9 times
   G. 10 or 11 times
   H. 12 or more times
18. During the past 12 months, how many times were you in a physical fight?
   A. 0 times
   B. 1 time
   C. 2 or 3 times
   D. 4 or 5 times
   E. 6 or 7 times
   F. 8 or 9 times
   G. 10 or 11 times
   H. 12 or more times

19. During the past 12 months, how many times were you in a physical fight in which you were injured and had to be treated by a doctor or nurse?
   A. 0 times
   B. 1 time
   C. 2 or 3 times
   D. 4 or 5 times
   E. 6 or more times

20. During the past 12 months, how many times were you in a physical fight on school property?
   A. 0 times
   B. 1 time
   C. 2 or 3 times
   D. 4 or 5 times
   E. 6 or 7 times
   F. 8 or 9 times
   G. 10 or 11 times
   H. 12 or more times

21. Have you ever been physically forced to have sexual intercourse when you did not want to?
   A. Yes
   B. No

22. During the past 12 months, how many times did someone you were dating or going out with physically hurt you on purpose? (Count such things as being hit, slammed into something, or injured with an object or weapon.)
   A. I did not date or go out with anyone during the past 12 months
   B. 0 times
   C. 1 time
   D. 2 or 3 times
   E. 4 or 5 times
   F. 6 or more times
23. During the past 12 months, how many times did someone you were dating or going out with force you to do sexual things that you did not want to do? (Count such things as kissing, touching, or being physically forced to have sexual intercourse.)
   A. I did not date or go out with anyone during the past 12 months
   B. 0 times
   C. 1 time
   D. 2 or 3 times
   E. 4 or 5 times
   F. 6 or more times

The next 2 questions ask about bullying. Bullying is when 1 or more students tease, threaten, spread rumors about, hit, shove, or hurt another student over and over again. It is not bullying when 2 students of about the same strength or power argue or fight or tease each other in a friendly way.

24. During the past 12 months, have you ever been bullied on school property?
   A. Yes
   B. No

25. During the past 12 months, have you ever been electronically bullied? (Count being bullied through e-mail, chat rooms, instant messaging, websites, or texting.)
   A. Yes
   B. No

The next 5 questions ask about sad feelings and attempted suicide. Sometimes people feel so depressed about the future that they may consider attempting suicide, that is, taking some action to end their own life.

26. During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?
   A. Yes
   B. No

27. During the past 12 months, did you ever seriously consider attempting suicide?
   A. Yes
   B. No

28. During the past 12 months, did you make a plan about how you would attempt suicide?
   A. Yes
   B. No
29. During the past 12 months, how many times did you actually attempt suicide?
A. 0 times
B. 1 time
C. 2 or 3 times
D. 4 or 5 times
E. 6 or more times

30. If you attempted suicide during the past 12 months, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or nurse?
A. I did not attempt suicide during the past 12 months
B. Yes
C. No

The next 10 questions ask about tobacco use.

31. Have you ever tried cigarette smoking, even one or two puffs?
A. Yes
B. No

32. How old were you when you smoked a whole cigarette for the first time?
A. I have never smoked a whole cigarette
B. 8 years old or younger
C. 9 or 10 years old
D. 11 or 12 years old
E. 13 or 14 years old
F. 15 or 16 years old
G. 17 years old or older

33. During the past 30 days, on how many days did you smoke cigarettes?
A. 0 days
B. 1 or 2 days
C. 3 to 5 days
D. 6 to 9 days
E. 10 to 19 days
F. 20 to 29 days
G. All 30 days

34. During the past 30 days, on the days you smoked, how many cigarettes did you smoke per day?
A. I did not smoke cigarettes during the past 30 days
B. Less than 1 cigarette per day
C. 1 cigarette per day
D. 2 to 5 cigarettes per day
E. 6 to 10 cigarettes per day
F. 11 to 20 cigarettes per day
G. More than 20 cigarettes per day
35. During the past 30 days, how did you usually get your own cigarettes? (Select only one response.)
A. I did not smoke cigarettes during the past 30 days
B. I bought them in a store such as a convenience store, supermarket, discount store, or gas station
C. I bought them from a vending machine
D. I gave someone else money to buy them for me
E. I borrowed (or bummed) them from someone else
F. A person 18 years old or older gave them to me
G. I took them from a store or family member
H. I got them some other way

36. During the past 30 days, on how many days did you smoke cigarettes on school property?
A. 0 days
B. 1 or 2 days
C. 3 to 5 days
D. 6 to 9 days
E. 10 to 19 days
F. 20 to 29 days
G. All 30 days

37. Have you ever smoked cigarettes daily, that is, at least one cigarette every day for 30 days?
A. Yes
B. No

38. During the past 12 months, did you ever try to quit smoking cigarettes?
A. I did not smoke during the past 12 months
B. Yes
C. No

39. During the past 30 days, on how many days did you use chewing tobacco, snuff, or dip, such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen?
A. 0 days
B. 1 or 2 days
C. 3 to 5 days
D. 6 to 9 days
E. 10 to 19 days
F. 20 to 29 days
G. All 30 days
40. During the past 30 days, on how many days did you smoke cigars, cigarillos, or little cigars?
   A. 0 days
   B. 1 or 2 days
   C. 3 to 5 days
   D. 6 to 9 days
   E. 10 to 19 days
   F. 20 to 29 days
   G. All 30 days

The next 6 questions ask about drinking alcohol. This includes drinking beer, wine, wine coolers, and liquor such as rum, gin, vodka, or whiskey. For these questions, drinking alcohol does not include drinking a few sips of wine for religious purposes.

41. During your life, on how many days have you had at least one drink of alcohol?
   A. 0 days
   B. 1 or 2 days
   C. 3 to 9 days
   D. 10 to 19 days
   E. 20 to 39 days
   F. 40 to 99 days
   G. 100 or more days

42. How old were you when you had your first drink of alcohol other than a few sips?
   A. I have never had a drink of alcohol other than a few sips
   B. 8 years old or younger
   C. 9 or 10 years old
   D. 11 or 12 years old
   E. 13 or 14 years old
   F. 15 or 16 years old
   G. 17 years old or older

43. During the past 30 days, on how many days did you have at least one drink of alcohol?
   A. 0 days
   B. 1 or 2 days
   C. 3 to 5 days
   D. 6 to 9 days
   E. 10 to 19 days
   F. 20 to 29 days
   G. All 30 days
44. During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?
   A. 0 days
   B. 1 day
   C. 2 days
   D. 3 to 5 days
   E. 6 to 9 days
   F. 10 to 19 days
   G. 20 or more days

45. During the past 30 days, what is the largest number of alcoholic drinks you had in a row, that is, within a couple of hours?
   A. I did not drink alcohol during the past 30 days
   B. 1 or 2 drinks
   C. 3 drinks
   D. 4 drinks
   E. 5 drinks
   F. 6 or 7 drinks
   G. 8 or 9 drinks
   H. 10 or more drinks

46. During the past 30 days, how did you usually get the alcohol you drank?
   A. I did not drink alcohol during the past 30 days
   B. I bought it in a store such as a liquor store, convenience store, supermarket, discount store, or gas station
   C. I bought it at a restaurant, bar, or club
   D. I bought it at a public event such as a concert or sporting event
   E. I gave someone else money to buy it for me
   F. Someone gave it to me
   G. I took it from a store or family member
   H. I got it some other way

The next 3 questions ask about marijuana use. Marijuana also is called grass or pot.

47. During your life, how many times have you used marijuana?
   A. 0 times
   B. 1 or 2 times
   C. 3 to 9 times
   D. 10 to 19 times
   E. 20 to 39 times
   F. 40 to 99 times
   G. 100 or more times
48. How old were you when you tried marijuana for the first time?
   A. I have never tried marijuana
   B. 8 years old or younger
   C. 9 or 10 years old
   D. 11 or 12 years old
   E. 13 or 14 years old
   F. 15 or 16 years old
   G. 17 years old or older

49. During the past 30 days, how many times did you use marijuana?
   A. 0 times
   B. 1 or 2 times
   C. 3 to 9 times
   D. 10 to 19 times
   E. 20 to 39 times
   F. 40 or more times

The next 10 questions ask about other drugs.

50. During your life, how many times have you used any form of cocaine, including powder, crack, or freebase?
   A. 0 times
   B. 1 or 2 times
   C. 3 to 9 times
   D. 10 to 19 times
   E. 20 to 39 times
   F. 40 or more times

51. During your life, how many times have you sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high?
   A. 0 times
   B. 1 or 2 times
   C. 3 to 9 times
   D. 10 to 19 times
   E. 20 to 39 times
   F. 40 or more times

52. During your life, how many times have you used heroin (also called smack, junk, or China White)?
   A. 0 times
   B. 1 or 2 times
   C. 3 to 9 times
   D. 10 to 19 times
   E. 20 to 39 times
   F. 40 or more times
53. During your life, how many times have you used methamphetamines (also called speed, crystal, crank, or ice)?
A. 0 times
B. 1 or 2 times
C. 3 to 9 times
D. 10 to 19 times
E. 20 to 39 times
F. 40 or more times

54. During your life, how many times have you used ecstasy (also called MDMA)?
A. 0 times
B. 1 or 2 times
C. 3 to 9 times
D. 10 to 19 times
E. 20 to 39 times
F. 40 or more times

55. During your life, how many times have you used hallucinogenic drugs, such as LSD, acid, PCP, angel dust, mescaline, or mushrooms?
A. 0 times
B. 1 or 2 times
C. 3 to 9 times
D. 10 to 19 times
E. 20 to 39 times
F. 40 or more times

56. During your life, how many times have you taken steroid pills or shots without a doctor's prescription?
A. 0 times
B. 1 or 2 times
C. 3 to 9 times
D. 10 to 19 times
E. 20 to 39 times
F. 40 or more times

57. During your life, how many times have you taken a prescription drug (such as OxyContin, Percocet, Vicodin, codeine, Adderall, Ritalin, or Xanax) without a doctor's prescription?
A. 0 times
B. 1 or 2 times
C. 3 to 9 times
D. 10 to 19 times
E. 20 to 39 times
F. 40 or more times
58. During your life, how many times have you used a needle to inject any illegal drug into your body?
A. 0 times
B. 1 time
C. 2 or more times

59. During the past 12 months, has anyone offered, sold, or given you an illegal drug on school property?
A. Yes
B. No

The next 7 questions ask about sexual behavior.

60. Have you ever had sexual intercourse?
A. Yes
B. No

61. How old were you when you had sexual intercourse for the first time?
A. I have never had sexual intercourse
B. 11 years old or younger
C. 12 years old
D. 13 years old
E. 14 years old
F. 15 years old
G. 16 years old
H. 17 years old or older

62. During your life, with how many people have you had sexual intercourse?
A. I have never had sexual intercourse
B. 1 person
C. 2 people
D. 3 people
E. 4 people
F. 5 people
G. 6 or more people

63. During the past 3 months, with how many people did you have sexual intercourse?
A. I have never had sexual intercourse
B. I have had sexual intercourse, but not during the past 3 months
C. 1 person
D. 2 people
E. 3 people
F. 4 people
G. 5 people
H. 6 or more people
64. Did you drink alcohol or use drugs before you had sexual intercourse the last time?
   A. I have never had sexual intercourse
   B. Yes
   C. No

65. The last time you had sexual intercourse, did you or your partner use a condom?
   A. I have never had sexual intercourse
   B. Yes
   C. No

66. The last time you had sexual intercourse, what one method did you or your partner use to prevent pregnancy? (Select only one response.)
   A. I have never had sexual intercourse
   B. No method was used to prevent pregnancy
   C. Birth control pills
   D. Condoms
   E. An IUD (such as Mirena or ParaGard) or implant (such as Implanon or Nexplanon)
   F. A shot (such as Depo-Provera), patch (such as Ortho Evra), or birth control ring (such as NuvaRing)
   G. Withdrawal or some other method
   H. Not sure

The next 5 questions ask about body weight.

67. How do you describe your weight?
   A. Very underweight
   B. Slightly underweight
   C. About the right weight
   D. Slightly overweight
   E. Very overweight

68. Which of the following are you trying to do about your weight?
   A. Lose weight
   B. Gain weight
   C. Stay the same weight
   D. I am not trying to do anything about my weight

69. During the past 30 days, did you go without eating for 24 hours or more (also called fasting) to lose weight or to keep from gaining weight?
   A. Yes
   B. No
70. During the past 30 days, did you take any diet pills, powders, or liquids without a doctor's advice to lose weight or to keep from gaining weight? (Do not count meal replacement products such as Slim Fast.)
   A. Yes
   B. No

71. During the past 30 days, did you vomit or take laxatives to lose weight or to keep from gaining weight?
   A. Yes
   B. No

The next 9 questions ask about food you ate or drank during the past 7 days. Think about all the meals and snacks you had from the time you got up until you went to bed. Be sure to include food you ate at home, at school, at restaurants, or anywhere else.

72. During the past 7 days, how many times did you drink 100% fruit juices such as orange juice, apple juice, or grape juice? (Do not count punch, Kool-Aid, sports drinks, or other fruit-flavored drinks.)
   A. I did not drink 100% fruit juice during the past 7 days
   B. 1 to 3 times during the past 7 days
   C. 4 to 6 times during the past 7 days
   D. 1 time per day
   E. 2 times per day
   F. 3 times per day
   G. 4 or more times per day

73. During the past 7 days, how many times did you eat fruit? (Do not count fruit juice.)
   A. I did not eat fruit during the past 7 days
   B. 1 to 3 times during the past 7 days
   C. 4 to 6 times during the past 7 days
   D. 1 time per day
   E. 2 times per day
   F. 3 times per day
   G. 4 or more times per day

74. During the past 7 days, how many times did you eat green salad?
   A. I did not eat green salad during the past 7 days
   B. 1 to 3 times during the past 7 days
   C. 4 to 6 times during the past 7 days
   D. 1 time per day
   E. 2 times per day
   F. 3 times per day
   G. 4 or more times per day
75. During the past 7 days, how many times did you eat potatoes? (Do not count french fries, fried potatoes, or potato chips.)
   A. I did not eat potatoes during the past 7 days
   B. 1 to 3 times during the past 7 days
   C. 4 to 6 times during the past 7 days
   D. 1 time per day
   E. 2 times per day
   F. 3 times per day
   G. 4 or more times per day

76. During the past 7 days, how many times did you eat carrots?
   A. I did not eat carrots during the past 7 days
   B. 1 to 3 times during the past 7 days
   C. 4 to 6 times during the past 7 days
   D. 1 time per day
   E. 2 times per day
   F. 3 times per day
   G. 4 or more times per day

77. During the past 7 days, how many times did you eat other vegetables? (Do not count green salad, potatoes, or carrots.)
   A. I did not eat other vegetables during the past 7 days
   B. 1 to 3 times during the past 7 days
   C. 4 to 6 times during the past 7 days
   D. 1 time per day
   E. 2 times per day
   F. 3 times per day
   G. 4 or more times per day

78. During the past 7 days, how many times did you drink a can, bottle, or glass of soda or pop, such as Coke, Pepsi, or Sprite? (Do not count diet soda or diet pop.)
   A. I did not drink soda or pop during the past 7 days
   B. 1 to 3 times during the past 7 days
   C. 4 to 6 times during the past 7 days
   D. 1 time per day
   E. 2 times per day
   F. 3 times per day
   G. 4 or more times per day
79. During the past 7 days, how many glasses of milk did you drink? (Count the milk you drank in a glass or cup, from a carton, or with cereal. Count the half pint of milk served at school as equal to one glass.)
   A. I did not drink milk during the past 7 days
   B. 1 to 3 glasses during the past 7 days
   C. 4 to 6 glasses during the past 7 days
   D. 1 glass per day
   E. 2 glasses per day
   F. 3 glasses per day
   G. 4 or more glasses per day

80. During the past 7 days, on how many days did you eat breakfast?
   A. 0 days
   B. 1 day
   C. 2 days
   D. 3 days
   E. 4 days
   F. 5 days
   G. 6 days
   H. 7 days

The next 6 questions ask about physical activity.

81. During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? (Add up all the time you spent in any kind of physical activity that increased your heart rate and made you breathe hard some of the time.)
   A. 0 days
   B. 1 day
   C. 2 days
   D. 3 days
   E. 4 days
   F. 5 days
   G. 6 days
   H. 7 days

82. On how many of the past 7 days did you do exercises to strengthen or tone your muscles, such as push-ups, sit-ups, or weight lifting?
   A. 0 days
   B. 1 day
   C. 2 days
   D. 3 days
   E. 4 days
   F. 5 days
   G. 6 days
   H. 7 days
83. On an average school day, how many hours do you watch TV?
A. I do not watch TV on an average school day
B. Less than 1 hour per day
C. 1 hour per day
D. 2 hours per day
E. 3 hours per day
F. 4 hours per day
G. 5 or more hours per day

84. On an average school day, how many hours do you play video or computer games or use a computer for something that is not school work? (Count time spent on things such as Xbox, PlayStation, an iPod, an iPad or other tablet, a smartphone, YouTube, Facebook or other social networking tools, and the Internet.)
A. I do not play video or computer games or use a computer for something that is not school work
B. Less than 1 hour per day
C. 1 hour per day
D. 2 hours per day
E. 3 hours per day
F. 4 hours per day
G. 5 or more hours per day

85. In an average week when you are in school, on how many days do you go to physical education (PE) classes?
A. 0 days
B. 1 day
C. 2 days
D. 3 days
E. 4 days
F. 5 days

86. During the past 12 months, on how many sports teams did you play? (Count any teams run by your school or community groups.)
A. 0 teams
B. 1 team
C. 2 teams
D. 3 or more teams

The next 6 questions ask about other health-related topics.

87. Have you ever been taught about AIDS or HIV infection in school?
A. Yes
B. No
C. Not sure
88. Have you ever been tested for HIV, the virus that causes AIDS? (Do not count tests done if you donated blood.)
   A. Yes
   B. No
   C. Not sure

89. When you are outside for more than one hour on a sunny day, how often do you wear sunscreen with an SPF of 15 or higher?
   A. Never
   B. Rarely
   C. Sometimes
   D. Most of the time
   E. Always

90. During the past 12 months, how many times did you use an indoor tanning device such as a sunlamp, sunbed, or tanning booth? (Do not count getting a spray-on tan.)
   A. 0 times
   B. 1 or 2 times
   C. 3 to 9 times
   D. 10 to 19 times
   E. 20 to 39 times
   F. 40 or more times

91. Has a doctor or nurse ever told you that you have asthma?
   A. Yes
   B. No
   C. Not sure

92. On an average school night, how many hours of sleep do you get?
   A. 4 or less hours
   B. 5 hours
   C. 6 hours
   D. 7 hours
   E. 8 hours
   F. 9 hours
   G. 10 or more hours

This is the end of the survey.
Thank you very much for your help.
### Binary Logistic Regression Results for IPV With Rape Victims Excluded (N = 9,137)

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* p < .05
+ p < .10
References


