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# Gender and Serious Youth Victimization: Assessing the Generality of Self-Control, Differential Association, and Social Bonding Theories

# Egbert Zavala Ryan E. Spohn Leanne F. Alarid

## Abstract

Criminologists have long questioned whether theories that have focused on male delinquency are equally applicable to female delinquency, a phenomenon termed "gender generalizability." While a number of studies have used self-reports from offenders, criminologists have yet to extend this issue to crime victims. While controlling for variables derived from victimization theories, we test three criminological perspectives (self-control, differential association, and social bond) on male and female victimization using data obtained from the *Evaluation of the Gang Resistance Education and Training* (GREAT) *Program* in the United States. Results show that for male victimization, gang membership and indications of a deviant lifestyle (self-reported delinquency) significantly predicted victimization, while associating with pro-social peers and being in a gang were associated with female victimization. Parental monitoring and belong to an intact family reduced victimization for males. Self-reported delinquency consistently predicted victimization across genders.

Keywords: victimization, self-control, differential association, social bond, gender

# Gender and Serious Youth Victimization: Assessing the Generality of Self-Control, Differential Association, and Social Bonding Theories

An abundance of studies have documented the relationship between criminal offending and victimization. Studies have shown that the correlates of criminal behavior can increase an individual's risk of being victimized (Jennings, Piquero, and Reingle 2012). For example, people with low self-control are more likely to engage in criminal behavior, which may also place them at risk for victimization. Furthermore, associating with delinquent peers is correlated with delinquency, but delinquent peers can also become motivated offenders, which increases the odds of victimization because they are surrounded by suitable targets. As a result, criminological theories that have been traditionally used to explain offending have now been extended to explain victimization. For instance, criminologists have extended Tittle's (1995) control-balance theory (Piquero and Hickman 2003), Anderson's (1999) code of the streets (Stewart, Schreck, and Simons 2006), Gottfredson and Hirschi's (1990) general theory of crime (Schreck 1999), and various adaptions of social learning theory (Fox, Nobles, and Akers 2011; Gover, Kaukinen, and Fox 2008; Jennings, Park, Tomsich, Gover, and Akers 2011) to account for various forms of victimization. Such applications are appropriate, since research has indicated that offenders and victims are often the same people (Mustaine and Tewksbury 2000) and the correlates of criminal behavior are also the same for victimization. This literature suggests that criminological theories used to explain criminal behavior should also be useful explanations for criminal victimization.

Although several studies have examined the predictability of criminological theories for victimization, very little research has addressed the issues of gender generalizability—the concept of whether theories that have focused on males are equally applicable to females, and whether these theories apply to serious victimization of both men and women. Traditionally, this victimization gap has largely been explained through routine activities/deviant lifestyles (Jensen

and Brownfield 1986), which suggest that females are less likely to be victimized because they engage in less risky lifestyles and provide fewer opportunities for motivated offenders (Lauritsen, Sampson and Laub 1991). With the exception of minor delinquency, studies have consistently shown that males are more likely than females to engage in serious delinquent behavior. This gender gap has been explained by differential association theory (i.e. males are more likely to have more delinquent peers than females) (Mears, Ploeger, and Warr 1998), selfcontrol theory (i.e. males are more likely to possess lower levels of self-control than females) (Chapple and Johnson 2007), and social bonding (i.e. females are more likely than males to be subjected to greater levels of parental and social control) (Anderson, Holmes, and Ostresh 1999). While these theories have been applied to account for gender differences in delinquency, their applicability to the gender gap in victimization has been less tested. This study attempts to close this gap.

The importance of this study is highlighted by the fact that over the past two decades, several scholars have debated whether "gender-neutral theories" can adequately explain female criminality, but which has not been extended to male and female victimization. Furthermore, victimization toward youth has been found to have serious detrimental effects, such as subsequent drug use, involvement in criminal behavior, dropping out of school, and even suicide (Finkelhor 2008). Therefore, it is essential for scholars to completely understand the etiology of victimization between genders in order to establish victimization prevention programs grounded in empirical evidence. We attempt to determine the extent to which three criminological theories (self-control, differential association, and social bonding) can explain serious victimization of girls and boys, some of whom have been involved in criminal behavior, and others who have reported very little deviance.

# Traditional Explanations for Victimization: Gender and Deviant Lifestyle/Routine Activity Theory

Traditionally, scholars have relied on deviant lifestyle (Hindelang, Gottfredson and Garofalo 1978) and routine activity theory (Cohen and Felson 1979) to explain a person's odds of victimization. Although these are two distinct theories, they both place the same emphasis on a person's habits, behavioral pattern, or lifestyle that may place them in contact with potential offenders and, thus, increasing their chances to become a victim. For example, individuals who frequently go to bars, are out on the streets, or attend nightclubs regularly are at a greater risk for victimization (Fisher, Daigle, and Cullen 2010). Routine activity theory argues that for victimization to occur there must be an attractive target, a motivated offender, and an absence of capable guardianship (Cohen and Felson 1979). This explanation places emphasis on exposure, opportunity, and engaging in activities that increase the chances for victimization. Furthermore, individuals who engage in criminal behavior also increase their chance of becoming a victim. For example, the offender may be caught during the commission of a crime, which may prompt an individual to retaliate against the offender; thus becoming a victim. Furthermore, criminals tend to hang around with other criminals, which increase the chance of victimization by their fellow criminal peers (Schreck, Fisher, and Miller 2004).

Several studies have adopted these theories as explanations for the gender gap in victimization. For example, Henson, Wilcox, Reyns, and Cullen (2010) reported that females were less likely to report victimization because they were less involved in (and exposed to) delinquency as part of their routine activities when compared to males. Popp and Peguero (2011) applied these theories in a school context. They reported that females involved in intramural sports increase their risk of victimization, while males who participated in school clubs increased their chances for victimization. The authors argued that stepping outside these gender-specific

associations (i.e. males are supposed to play intramural sports and females are supposed to join social clubs) made them suitable targets for motivated offenders (Popp and Peguero 2011). Similarly, Wilcox, Tillyer, and Fisher (2009) found that boys who participated in school activities, possessed an impulsive personality, had delinquent friends, and reported criminal behavior were more likely to report assault victimization. Females who were involved in school sports reported assault victimization as well. Although these studies are informative, they are limited because they lack measures of other criminological theories, which have been shown to contribute to victimization.

Correlates of youth victimization have been informed by data from the *Gang Resistance Education and Training (GREAT) Program* (Esbensen, Peterson, Taylor, and Freng 2010). Studies using GREAT data have found support for deviant lifestyles and routine activities theory. For example, Taylor et al. (2007) and Peterson, Taylor, and Esbensen (2004) found that gang members were more likely to report physical victimization, supporting deviant lifestyles theory. Similarly, Taylor et al. (2008) and Esbensen, Peterson, Taylor, and Freng (2009) reported that youth involved in delinquency and the use of alcohol and drugs were also likely to report victimization. However, these studies are limited by the fact that the authors do not account for the multistage cluster sampling design found in the GREAT data, nor were measures of differential association, self-control, or social bond included as theoretical variables (Peterson, Taylor, and Esbensen 2004).

The strong correlation between offending and victimization has prompted the idea that offenders and victims share similar characteristics and criminological theories formulated to explain criminal behavior may also help to explain victimization. We discuss three

criminological theories in explaining victimization: self-control, differential association, and social bonding.

## A General Theory of Crime, Gender, and Victimization

Gottfredson and Hirschi's (1990) general theory of crime is based on the concept of selfrestraint whereby individuals with poor self-restraint (interpreted as low self-control) will not consider the long-term costs associated with criminal or other acts of deviant behavior. Individuals with low self-control are said to be self-centered, show a low tolerance for frustration, prefer physical rather than mental activities, are risk-takers, anger easily, lack empathy, and lack diligence. Overall, studies have found a relationship between low self-control and criminal behavior, and a meta-analysis indicated that the effect size for self-control was larger for females than it was for males (Pratt and Cullen 2000). This means that self-control, as the theory is traditionally measured, had a greater impact for females.

Schreck (1999) generated new interest in the theory when he proposed it as an explanation for victimization. Schreck (1999) theorized that individuals with low self-control are likely to engage in criminal activities and other behaviors that in return will increase a person's chances of becoming a victim (see, Forde and Kennedy 1997). More specifically, he argued that individuals with low self-control are less likely to think beforehand about their actions, which may put the individual in an undesirable situation that increases their victimization. Schreck (1999) pointed out that Gottfredson and Hirschi's (1990) components of self-control can all be factors that contribute to a person's own victimization.

Numerous studies have found a link between self-control and victimization (Pratt, Turanovic, Fox, and Wright 2014). These studies suggest that self-control influences victimization through its impact on risky/deviant lifestyles and associating with delinquent peers (Schreck et al. 2006). For example, Taylor et al. (2007) found that gang members were more

likely to report low levels of self-control than non-gang members, which in turn contributed to their violent victimization. In addition, Schreck, Stewart, and Fisher (2006) reported that youth with low self-control were less likely to change their lifestyles once they became physically victimized, which contributed to future victimization and delinquency. Overall, a meta-analysis showed that self-control is a consistent and significant predictor of victimization, albeit a modest one (Pratt et al. 2014).

There is a dearth of research on the link between self-control, victimization, and gender simultaneously. With the exception of Fox, Gover, and Kaukinen (2009), most of these studies either test the link in an all-male or all-female samples or simply control for sex in their analysis. For example, Franklin, Franklin, Nobles, and Kercher (2012) found that low self-control and selling drugs were positively correlated with property, personal, and sexual assault victimization in their all-female sample. Similarly, Stewart, Elifson, and Sterk (2004) found that women with low self-control were more likely to be victims on the street. Kerley, Xu, and Sirisunyaluck (2008) found that low self-control was related to intimate partner violence perpetration and victimization among Thai women. Franklin (2011) found a positive relationship between low self-control and alcohol-induced sexual assault victimization among a sample of female college students, while Baron, Ford, and Kay (2007) found that the risk-taking component of low selfcontrol significantly predicted victimization among a group of homeless male youths. Other studies simply controlled for sex when examining the low self-control and victimization link (Reisig, Pratt, and Holtfreter 2009; Holtfreter, Reisig, and Pratt 2008; Schreck, Stewart et al. 2006; Schreck, Wright and Miller 2002). Overall, these studies provide evidence that low selfcontrol is associated with victimization and explains both male and female victimization.

## Differential Association, Gender, and Victimization

Differential association argues that the group of individuals a youth associates with largely determines whether that individual will engage in criminal behavior. If the group engages in criminal behavior, then the youth will learn criminal/deviant definitions and imitate what they witnessed. The effect of one's peer group is so influential that, even if there is no previous relationship or attachment, a stranger who makes suggestive comments and justifies deviant behavior has been shown in a controlled experiment to directly cause an individual to engage in deviance (Paternoster, McGloin, Nguyen, and Thomas 2013).

Differential association can be useful in explaining why individuals with delinquent peers have a heightened risk of victimization. With delinquent friends, there is always a motivated offender and this offender always has a pool of potential victims (Schreck, Wright, and Miller 2002). The amount of exposure and contact with delinquent friends, therefore, increases victimization (Beaver 2011). Osgood, Wilson, Bachman, O'Malley, and Johnston (1996) also argue that for delinquency to occur, peers need to perform their activities away from parental control and other informal authority figures such as teachers. Because these authority figures may be absent during leisure activities, victims usually lack this guardianship against victimization. Youth who spend a lot of time away from home and away from parental control and other authority figures increase their likelihood of victimization (Schreck et al. 2002). Studies tend to suggest that the most accessible targets of victimization are an individual's friends. As it pertains to the current study, this theoretical perspective would suggest that victimization would differ by the victim's sex. Males tend to have more delinquent peers than females and the effect of delinquent peers on delinquency is greater among males than females (Mears, Ploeger, and Warr 1998). It is reasonable to expect that variables derived from differential association would better predict male victimization than female victimization.

Jennings et al. (2010) reported no relationship between delinquent peer association and victimization. They attributed the non-significant relationship to the way delinquent peer association was measured in their study. The same results were reached by Taylor et al. (2008) and Taylor et al. (2007). Schreck et al. (2004) found a positive relationship between delinquent peers and victimization. Specifically, they found that youth who associated with peers who engaged in violent and property crimes were more likely to report victimization. However, they also note that simply having delinquent peers does not necessarily increase victimization, but rather the type of peers and friendship characteristics may be more important in determining the risk factors for victimization (Schreck, Stewart, and Fisher 2004; also see Haynie 2001).

## Social Bond, Gender, and Victimization

Hirschi's (1969) social bond theory argues that the cause of criminal behavior lies in the strength of the relationship (social bonds) a child forms with conventional individuals or groups, such as the family, school, and other social institutions. If these social bonds are broken or weakened, individuals will be free to commit criminal behavior. Likewise, individuals will refrain from committing criminal/deviant behavior if they are kept "in check" by their social bonds to society. There are four elements to social bond theory: attachment, commitment, involvement, and belief.

Attachment refers to the strength to which an individual cares about the opinions of others, such as parents, teachers, and significant others. Commitment refers to the individual's time or investment in pursuing conventional activities (i.e. getting good grades). Involvement refers to the amount of time someone spends on conventional activities. The more time spent on an activity, the less likely someone will commit criminal behavior because he or she will have no time to do so. Finally, belief refers to an individual's belief in the moral validity of the law, which is typically measured by how individuals feel about the police. Although not originally

formulated to explain victimization, weak or broken social bonds may place a youth at risk for victimization. Just as strong social bonds reduce involvement in delinquency, these same strong bonds may prevent youth from being victimized. A youth with weak social bonds are more likely to engage in criminal behaviors that, in turn, increase the opportunity for victimization. Similarly, youth who lack strong commitment or involvement are more likely to have free leisure time, which increases the opportunity to engage in criminal behavior and, thus, increase their chances for victimization (Agnew and Peterson 1989).

Several studies have tested the relationship between social bonds and victimization. For example, Taylor et al (2007, 2008) reported no relationship between victimization and school commitment/parental attachment. Jennings et al. (2010) examined the influence of school commitment and parental bonding on victimization, finding that both factors reduced delinquency and victimization. Schreck et al. (2002) analyzed cross-sectional data collected from Fayetteville, Arkansas and reported that family and school bonds were not related to victimization. The same result was reached by Schreck and colleagues (2006). Beaver (2011) analyzed data obtained from the National Longitudinal Study of Adolescent Health and found that social support, school commitment, and family risk were significant in predicting victimization. Weak emotional attachment to family members increased victimization (Esbensen, Huizinga, and Menard 1999). Wilcox, Tillyer, and Fisher (2009) included variables that measured the respondent's attachment to school, parents, peers, and involvement to school activities (i.e. sports and other school activities). Involvement in school sports increased theft victimization for both males and females, whereas involvement in school activities increased victimization for females only. Attachment to parents and school was negatively related to theft victimization for females, but it was not significant for males. Given the inconsistency of the

literature regarding gender and social bonding, this study makes a gender-neutral hypothesis regarding the association between social bonding and victimization.

### The Present Study

Little research has been undertaken to address the generalizability of criminological theories on male and female victimization. To address this gap in the literature, we examine three different criminological theories to determine each theory's ability to explain victimization for girls and boys.

There is a relationship between self-control and victimization. Individuals with low selfcontrol can increase their odds of victimization. Thus, we state the following hypothesis: **H1**: Low self-control is positively correlated with both male and female victimization.

Studies have consistently shown that males are not only more likely than females to have delinquent peers, but also that the nature of peer relationships for middle school boys is more likely to involve violent victimization and perpetration. It stands to reason that males will be more likely to be victimized by delinquent peers than females. We test this concept with the following hypothesis:

**H2**: Delinquent peers are positively correlated with male victimization and not associated with female victimization.

Social bonding theory generally predicts that youth with strong social bonds, specifically youth who are attached to parents and have a commitment to school, are less likely to be victimized. We examine this idea with the following hypothesis:

H3: Social bonding will be negatively correlated with both male and female victimization.

## Methods

## Data

Data for the current study came from the *Evaluation of the Gang Resistance Education and Training (GREAT) Program in the United States, 1995-1999* (see Esbensen and Winfree 1999).<sup>1</sup> GREAT is a gang prevention program in which trained police officers in various cities conducted a nine-session classroom instructional program to middle school students informing them about the dangers of joining gangs and involvement in criminal activities. GREAT also employed a survey which contained questions regarding criminal activity in the respondent's school, neighborhood, and in their community, as well as their own involvement in criminal behavior and their own victimization. This cross-sectional survey was completed during the spring of 1995 and was administered to eighth-grade students, teachers, law enforcement officials, and parents. Data was gathered using a multistate cluster sampling design. However, some studies did not account for this clustering in their analyses, suggesting that their statistical models may be misspecified (Childs, Cochran, and Gibson 2009; Taylor, Freng, Esbensen, and Peterson 2008; Taylor, Peterson, Esbensen, and Freng 2007).

The primary investigators selected cities that had one or more police officers certified to conduct GREAT classes prior to January 1994. A total of eleven cities were chosen to conduct the survey. These eleven cities are: Torrance, California; Pocatello, Idaho; Providence, Rhode Island; Will County, Illinois; Orlando, Florida; Milwaukee, Wisconsin; Kansas City, Missouri; Philadelphia, Pennsylvania; Phoenix, Arizona; Omaha, Nebraska; and Las Cruces, New Mexico. Self-administrated questionnaires were handed out to all eighth graders who investigators were able to obtain parental consent at the day of the survey. This sampling technique yielded 5,935 eighth-grade students encompassing 315 classrooms in 42 different middle schools. The

<sup>&</sup>lt;sup>1</sup> While the data were collected in the mid 1990s, the data are relevant to theory testing. Cochran and colleagues (2016) argued that general theories like the ones tested here should be applicable to any timeframe. As such, "the validity, explanatory power, and/or predictive efficacy of general theories should not be period specific, that is, limited to data collected at some but not other points in time" (Cochran et al. 2016: 968).

attendance rate for the day in which the survey was administered varied from a low of 75% to a high of 93%. It should be noted that the cross-sectional nature of the data will not allow us to distinguish temporal ordering. Therefore, the results presented here are correlates of victimization rather than causes. Although longitudinal GREAT data are available, we argue that the cross-sectional data is more appropriate to use for this study because the cross-sectional data are more racially diverse, more equal in gender representation, and is collected from a wider variety of geographical areas (Esbensen et al. 2009). The cross-sectional data were collected from 11 cities or counties across the United States, whereas the longitudinal data concentrated within only six locations, reducing both sample size and geographical representation.

#### **Description of Variables**

## **Dependent Variable<sup>2</sup>**

A dichotomous dependent variable captured victimization of robbery and aggravated assault, which is consistent with other studies using the same data (Taylor et al. 2008). Respondents were asked if the following two questions has ever happened to them: "Has someone used a weapon or force to get money or things from you?" and "Have you been attacked by someone with a weapon or by someone trying to seriously hurt or kill you?" If respondents answered "yes" to either of the two questions the response was coded as 1 = victimized. Those who did not experience any victimization were coded as 0 = not victimized.<sup>3</sup>

# Independent Variables<sup>4</sup>

<sup>&</sup>lt;sup>2</sup> Due to page limitations, the scales and the individual items that form them, are not presented in the text. They are available upon request by contacting the first author.

<sup>&</sup>lt;sup>3</sup> Dichotomizing victimization data are common practice. This is sometimes due to the fact that scholars are interested in the *occurrence* of violence rather than the *frequency* of violence. The current method is consistent with prior studies using these data (i.e. Wilcox, Tillyer, and Fisher 2009; Schreck, Miller, and Gibson 2003).
<sup>4</sup> We acknowledge that each theory is being partially tested because all the necessary variables needed to fully test these theories were not available in these data. Nevertheless, the testing of these theories are consistent with previous studies using these data.

**Self-Control.** To measure self-control, eight items from the index developed by Grasmick, Tittle, Bursik, and Arneklev (1993) was used to measure impulsivity and risk-seeking behaviors.<sup>5</sup> Each question contained response categories that ranged from 1=Strongly Disagree to 5=Strongly Agree. Scores on the eight questions were then summed together to form the respondent's self-control index. Higher scores indicate lower levels of self-control. A reliability analysis revealed a Cronbach's alpha of .80. Scores on the index ranged from 8 to 40 with higher scores on the measure indicating higher levels of self-control.

**Differential Association Variables.** Two variables are utilized to reflect differential association. These two measures are pro-social peers and delinquent peers.<sup>6</sup> *Pro-social peers* are an eight-item index that captures the extent to which respondents' friends are involved in conventional activities such as community and religious activities. Each of these eight questions contained response categories that ranged from *1 (none of them)* to *5 (all of them)*. A reliability analysis revealed a Cronbach's alpha of .84. Scores ranged from 8 to 40, with higher scores indicating greater levels of involvement with peers in pro-social activities. *Delinquent peers* are measured using a 16-item index that taps the extent to which respondents' friends engage in a variety of illegal activities. Each of these 16 questions contained response categories that ranged from *1 (none of them)* to *5 (all of them)*. A reliability analysis revealed a Cronbach's alpha of these 16 questions contained response categories that ranged from *1 (none of them)* to *5 (all of them)*. A reliability analysis revealed a Cronbach's alpha of these 16 questions contained response categories that ranged from *1 (none of them)* to *5 (all of them)*. A reliability analysis revealed a Cronbach's alpha of

<sup>&</sup>lt;sup>5</sup> The primary investigators did not employ all of Grasmick et al. (1993) self-control scale opting to only capture impulsivity and risk-seeking behavior. It should be noted that other scholars have used these same 8 items to measure self-control in studies testing Gottfredson and Hirschi's (1990) general theory of crime (see, Childs, Cochran, and Gibson 2009; Higgins et al. 2009; Jennings et al. 2010).

<sup>&</sup>lt;sup>6</sup> Studies using GREAT data have also included variables that measure negative and positive peer associations in predicting victimization (see Taylor et al. 2008; Taylor et al. 2007). In a separate analysis (not shown), these variables were not significant in predicting victimization for either sex. These results should not be surprising because the items used to construct these measures are hypothetical questions about whether respondents *would* hang out with friends that started getting into trouble. These questions have little face validity for a study testing differential association theory.

.94. Scores ranged from 16 to 80, with higher scores indicating greater levels of involvement with peers who engaged in delinquent behaviors.

Attachment, Commitment, and Beliefs. Social bonding was measured using constructs of attachment, commitment, and belief.<sup>7</sup> Two concepts were used to capture attachment: parental attachment (mother and father) and parental monitoring. *Mother/Father attachment* was measured through a composite of two separate six-item semantic differential scales (one each for mother/mother figure and father/father figure). A reliability analysis revealed a Cronbach's alpha of .84 for the mother/mother-figure attachment and a Cronbach's alpha of .88 for the father/father-figure attachment. Scores ranged from 6 to 42 on each index, with higher scores indicating higher attachment to a parent. *Parental monitoring* is an index consisting of four items measuring communication with parents. These questions were added together to form the respondents' parental monitoring. A reliability analysis revealed a Cronbach's alpha of .73. Scores ranged from 4 to 20, with higher scores indicating greater levels of parental monitoring.

Commitment was captured by a 5-item scale of the respondent's orientation to his or her educational goals. Each of these five questions contained response categories that ranged from *I* (*Strongly Disagree*) to *5* (*Strongly Agree*). These questions were added together to form the respondent's school commitment. A reliability analysis revealed a Cronbach's alpha of .77. Scores ranged from 5 to 25, with higher scores indicating greater levels of school commitment.

*Belief* was an index consisting of nine-items measuring whether it is okay to lie, fight, and steal. Each of these nine questions contained response categories that ranged from *1* (*strongly disagree*) to 5 (*strongly agree*). These questions were added together to form the

<sup>&</sup>lt;sup>7</sup> Unfortunately, the data did not include a measure of the respondent's involvement in conventional activities. However, some scholars have argued that commitment and involvement are the same concept (Krohn 2000). Take, for example, a youth who is a member of the high school marching band. Practicing daily on his or her musical instrument can be viewed as being both involved and committed to music.

respondent's beliefs. A reliability analysis revealed a Cronbach's alpha of .86. Scores ranged from 9 to 45, with higher scores indicating stronger beliefs for lying, stealing, and fighting.

**Control Variables.** Several characteristics will be controlled because previous studies have indicated that certain variables influence victimization, particularly engaging in delinquency, age, family structure, race/ethnicity, and gang membership (Finkelhor and Asdigian 1996; Henson et al. 2010; Lauritsen and White 2001; Taylor et al. 2008; Schreck and Fisher 2004). Engaging in delinquency is hypothesized to increase the likelihood of victimization. Delinquency is measured by a 17-item summary index consisting of the respondents' selfreported engagement in status and minor offenses, property and personal offenses, and illicit drug use and sales.<sup>8</sup> Respondents were allowed to answer these questions by indicating yes or no (1=Yes, 0=No). A reliability analysis revealed a Cronbach's alpha of .87. Scores ranged from 0 to 17, with higher scores indicating greater involvement in delinquent behavior. Age was coded in years. Race and ethnicity was measured by four dummy variables (White, Hispanic, Black, and Other), whereby "1" was the reference category for white, non-Hispanic respondents and 0 for all other groups, and so forth for each dummy variable. Family structure was coded as "1" if the respondent currently lived with both biological parents and 0 for all other family living arrangements. Gang member was coded 1 if the respondent self-indicated he or she is in a gang and 0 for not in a gang.

#### **Analytical Plan**

The analysis is conducted in two stages. First, we present descriptive statistics for the variables used in the analysis. These statistics are useful to describe each measures overall

<sup>&</sup>lt;sup>8</sup> Some readers may notice that the delinquency variable is constructed of various behaviors that include serious and minor offenses, while the dependent variable is serious victimization. However, this is consistent with other studies using these data (e.g., Taylor et al., 2007; 2008).

distribution. Second, a series of logistic regression models are created since the dependent variable is dichotomous. Two models are constructed for each sex. To account for the multistage cluster sampling design of the data, we use the STATA options "robust" and "cluster" to produce standard errors that are robust to violations of the independence of observations.<sup>9</sup>

#### **Sample Characteristics**

Descriptive statistics for the variables are reported in Table 1. We excluded cases that contained unanswered questions pertaining to the variables of interest from the analysis, which is consistent with other studies using this same data set (Anderson 2002; Childs, Cochran, and Gibson 2009).<sup>10</sup> Our final sample size was 3,930 youth (2,117 females and 1,813 males). About 8% of females and 16% of males reported serious victimization. The majority of respondents were white (45.7% for males and 48.4% for females).

We estimated a series of means-difference tests across sex for the full array of variables in our study. Table 1 reports that eight of the variables exhibit a significant mean difference across sex. Consistent with previous studies, the current study shows that males have lower levels of self-control than females. Males are more likely to have delinquent peers and report a higher deviant involvement as compared to females. Regarding measures of social control, males tend to report have higher levels of attachment to their fathers than females. On the other hand, females report higher levels of parental monitoring and school commitment than males. Males

<sup>&</sup>lt;sup>9</sup>As with any regression procedure, multicollinearity may be a problem. To determine if multicollinearity is a problem in these data, tolerance and variance inflation factors (VIF) were calculated. In both the male and female models, all tolerances are above 0.25 and all VIFs are below 4, indicating that multicollinearity is not a problem in the present study (Walker and Maddan 2013). The results are not shown in order to preserve space, but are available upon request from the first author.

<sup>&</sup>lt;sup>10</sup> All variables have less than 10% of missing data. Bennett (2001) recommends that anything less than 10% be an acceptable percentage of missing data.

report higher levels of beliefs than do females. Finally, males are slightly older than females in this sample.

### \*Table 1 about Here\*

#### Results

Model 1 of Table 2 reports the results for females. Model 1 indicates that only one theoretical and four control variables were significant in predicting female victimization. Females who associated with pro-social peers were more likely to report victimization (Odds Ratio [OR]=1.04). No other theoretical variables were significant. Regarding the control variables, self-reported delinquency, age, being African-American, and gang membership increased female victimization.<sup>11</sup> A one-unit increase in delinquency increased female victimization than younger respondents. African-Americans were more likely to report victimization than whites. Finally, being in a gang increased victimization by 2.01 times. The Nagelkerke R<sup>2</sup> is 0.17 and its  $\chi^2$  is statistically significant.

Model 2 of Table 2 shows the results for males. This model indicates that one theoretical variables and three control variables were significant in predicting boys' victimization. Parental monitoring was found to be negative and significant (OR=.998). Males with higher levels of parental monitoring were less likely to report victimization. Furthermore, self-reported delinquency is found to be positive and significant. Results showed that boys who have a one-point increase in delinquency increased the odds of victimization by 1.27 times. Regarding the

<sup>&</sup>lt;sup>11</sup> An exploratory analysis (not shown) excludes prior delinquency and gang member to determine the effects of the theoretical variables on the dependent variable in the absence of these control variables that are strongly related to the dependent variable, since engaging in delinquency is a strong predictor of victimization and these data were collected from a gang intervention program. In this analysis, self-control is significant for the female model, but becomes non-significant when delinquency and gang member are included. For the male model, the results of this analysis were similar to those discussed in the paper.

control variables, belonging to an intact family decreased victimization. Respondents who lived with both of their biological parents were less likely to report victimization (OR=.726). Finally, being a gang member increased victimization. Individuals self-reporting gang membership were 2.18 times more likely than non-gang members to report victimization. The model's overall predictive strength (Nagelkerke  $R^2$ ) is 0.20 and its  $\chi^2$  is statistically significant.

A series of coefficient comparison tests (Paternoster et al. 1998) were also conducted to examine the invariance of the measures across sex. The results of these tests showed that the relationship between pro-social peers and victimization is significantly different across sex. More specifically, pro-social peers are more salient for females, as compared to males, in predicting victimization compared to males.

#### \*Table 2 about Here\*

#### **Discussion and Conclusion**

Criminological theories initially formulated to explain criminal behavior have also been used to explain criminal victimization. Although criminological theories have been able to explain victimization, few studies have addressed the issue of gender generalizability for youth—the idea that these theories can also explain boys' and girls' victimization. The current study attempted to close this gap by analyzing data from the GREAT program as it related to robbery and assault victimization. Several interesting findings emerge from the study.

First, self-control theory was not found to significantly predict the incidence of robbery and assault victimization and, therefore, Hypothesis 1 was not supported. This could be due to the reduced significance of self-control when intervening variables such as delinquent peers, gang membership, drug use, and unstructured routines are used (Pratt et al. 2014). Second, studies using GREAT data that did not control for the multi-clustering design of the survey may

have produced spurious results (Higgins et al. 2009; Jennings et al. 2010). Finally, Pratt et al. (2014) found that self-control was better at predicting noncontact forms of victimization (i.e. online victimization and fraud) rather than physical forms of victimization such as robbery and assault measured in the current study.

It was hypothesized that delinquent peers would increase victimization for males, whereas females' victimization would be non-significant, since females tend to be insulated from negative influence of deviant peers. Hypothesis 2 is not supported. In both the male and female models, delinquent peers were not significant. This result is consistent with other studies that also report a non-significant relationship between delinquent peers and victimization (Jennings et al. 2010; Taylor et al. 2007; Taylor et al. 2008). This finding may be attributed to the fact that having delinquent peers may not increase victimization, but associating with delinquent peers in an *unsupervised and unstructured time* may be of greater importance (Osgood et al. 1996). Put differently, a youth can have delinquent peers, but what matters is what they are actually doing together during high risk times and places that increases risk for victimization (Hindelang et al. 1978).

Interestingly, pro-social peers increased the odds of victimization for females. There are two possible explanations for this finding. First, from a routine activity perspective, motivated offenders may perceive girls as vulnerable and more likely to be targeted for violent victimization. Qualitative studies have provided support for this notion. For example, Cobbina, Miller, and Brunson (2008) noted that males were more likely to carry weapons, whereas females were perceived to be weak and less likely to fight back. Therefore, girls who were likely to associate with pro-social peers may have been viewed as easy targets and, thus, believed to be at greater risk for victimization. As such, females reported staying out of public spaces and out of

the reach of motivated offenders (Cobbina et al. 2008). Second, Haynie (2001) pointed out that it is not simply having delinquent peers that contribute to victimization and delinquency, but rather the characteristics of a person's friendship network. Delinquency and victimization is more likely to occur when there is a strong cohesion among peers (network density), when the youth possesses a central position within the friendship network (network centrality), and when the youth receives many friendship nominations (popularity) and not how many delinquent friends a peer claims (Haynie 2001).

We now turn our attention to the social bonding variables. Social bonding variables were not significant in predicting middle school girls' victimization, which was consistent with previous studies using the GREAT data set (Taylor et al. 2007, 2008). Hypothesis 3 was not supported for girls, and was only partially supported for boys. Boys who reported high levels of parental monitoring were less likely to report violent victimization. This may be because parental monitoring reduced the opportunity that boys had to be in a place that increased their chance for victimization. The other social bonding variables (parental attachment, commitment to school, and moral beliefs) were not significant. This finding is consistent with Taylor and colleagues (2007, 2008), but inconsistent with Jennings et al. (2010) who found that school commitment and parental attachment reduced victimization. One possible explanation provided by Esbensen, Huizinga, and Menard (1999) is that victimization may depend less on the characteristics of the victim, but more on the characteristics of the potential offender. Victims may have strong social bonds to school, parents, and conventional activities, but victimization may still occur if the victim and offender come together in specific situations; an explanation consistent with routine activities theory (Esbensen et al. 1999).

Finally, it is important to discuss the importance of self-reported delinquency.

Delinquency was found to be positive and significant in predicting both male and female violent victimization. The nearly identical coefficients for delinquency for boys and girls suggest that delinquency is equally as risky in putting youth at risk for violent victimization of robbery and assault. Our results also suggest that studies that have failed to control for involvement in delinquency may not have provided a comprehensive examination of the correlates of youth victimization (Childs, et al. 2009; Higgins et al. 2009; Jennings et al. 2010). Our study provides compelling evidence that a deviant lifestyle (Hindelang et al. 1978) is an important risk factor for serious victimization of males and females. Overall, the inability of these theoretical variables to predict serious victimization aligns with some scholars' contention that these theories may be more suitable for explaining minor forms of delinquency (see, Akers and Sellers 2009), and our findings demonstrated that this may also be true for serious victimization as well.

#### **Limitations and Conclusion**

As with many other criminological studies, the results of the current analyses should be viewed with the study's limitations in mind. First, the sample in the current study was obtained through students attending public schools. This limitation reduces the ability to generalize these results to students not attending public schools or to students that were absent on the day of the survey or refused to participate in the study. Caution should be exercised in applying these findings to students in private schools and students that are home-schooled. Second, as pointed out by Jennings et al. (2010), the measures used to capture victimization are limited to one particular period, between the ages of 12 to 16. Therefore, the ability of low self-control and other variables to predict criminal behavior and victimization during other developmental phases of youth cannot be determined in the current study. Third, the dependent variable only captured

robbery and aggravated assault. Results may have differed if we examined different types of victimization. Therefore, future research should attempt to determine whether these theories can predict other types of victimization (i.e. bullying, cyber-victimization, property victimization, etc.) and test this dependent variable for generality across gender. Fourth, like all studies using self-reported data, how truthful respondents were when reporting their own victimization and delinquency is unknown. There is the possibility of under/over reporting these events and some factors may influence how a respondent answers particular questions.<sup>12</sup> Finally, as previously stated, the current data came from a cross-sectional design, which calls the causal time-ordering among some variables into question. For example, the dependent variable asks respondents whether they have "ever" been victimized. As such, it is possible that the respondent's victimization influenced how he or she answered some the independent variables used to predict victimization. Future studies should attempt to disentangle this issue.

In conclusion, the results of our study point to the fact that social bonding and differential association explained victimization differently by gender. This is particularly true for female victimization. Although the extant evidence shows that delinquent peers, social bonds, and delinquency lifestyle directly and indirectly impact the odds of becoming a victim, we suggest that future research continue to explore the pathways approach as a viable explanation of girls' victimization. The pathways approach originated as an explanation for why girls and women come to the attention of the criminal justice system. Research has found similar core pathways that girls and women share, and studies consistently find an overlap between victimization and criminality (Brennan et al. 2012; Chesney-Lind 1997; Daly 1992; Gilfus 1992; Owen 1998; Richie 1996; Salisbury and Van Voorhis 2009; Shechory, Perry and Addad 2011; Simpson,

<sup>&</sup>lt;sup>12</sup> We would like to thank the anonymous reviewer for illustrating this point.

Yaher and Dugan 2008). The pathways approach acknowledges that girls generally experience early childhood neglect, abuse, and interpersonal violence at the hands of family members and friends at greater rates than boys. These experiences lead to self-esteem and anger management issues, problems in school, mental health problems and/or substance abuse. Many of these earlier experiences influence why girls and young women remain socially and economically marginalized and involved in certain types of criminal behavior (Salisbury and Van Voorhis 2009). The pathways approach may be viable for explaining violent victimization and how that may lead to later arrests for violent delinquency (Rivera and Widom 1990).

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Variables	Femal	2,117)	Males	(n=1,8	313)	Full Sample		(n= <b>3</b> , <b>930</b> )	
	Mean (%)	S.D.	Min/Max	Mean (%)	S.D.	Min/Max	Mean (%)	S.D.	Min/Max
Dependent Variable									
Serious Victimization	(8.31)			(15.9)			(11.8)		
Self-Control									
Self-Control***	22.7	5.77	8/40	23.9	5.78	8/40	23.3	5.81	8/40
Differential Association									
Pro-Social Peers	24.3	6.33	8/40	24.3	6.40	8/40	24.3	6.36	8/40
Delinquent Peers***	29.5	12.0	16/80	31.7	13.6	16/80	30.5	12.8	16/80
Social Bonding									
Mother Attachment	29.3	8.12	6/42	29.4	7.50	6/42	29.4	7.84	6/42
Father Attachment***	25.6	9.14	6/42	28.3	9.04	6/42	26.9	9.19	6/42
Parental Monitoring***	15.6	3.05	4/20	14.6	3.14	4/20	15.1	3.13	4/20
School Commitment***	19.2	3.60	5/25	18.6	3.80	5/25	18.9	3.71	5/25
Beliefs***	26.0	7.05	9/45	28.8	7.08	9/45	27.3	7.21	9/45
Controls									
Self-Reported Delinquency**	**3.05	3.10	0/17	4.28	3.14	0/17	3.61	3.52	0/17
Age***	13.7	.591	11/18	13.8	.616	12/18	13.7	.606	11/18
White	(45.7)			(48.4)			(46.9)		
African-Americans	(20.9)			(20.6			(20.7)		
Hispanic	(16.9)			(17.5)			(17.2)		
Other	(16.3)			(13.5)			(15.0)		
Intact Family	(67.8)			(73.2)			(70.3)		
Gang Member	(6.28)			(8.83)			(7.46)		

 Table 1. Descriptive Statistics and Means-Difference Test

Note:\*p<.05, \*\*p<.01, \*\*\*p<.001

Variables	Model 1: Females (n=2.117)					Model 2: Males $(n=1.813)$			
	b	S.E.	Odds Ratio	95% C.I.	b	S.E.	Odds Ratio	95% C.I.	
Self-Control									
Self-Control	.030	.017	1.03	0.99, 1.06	.012	.015	1.01	0.98, 1.04	
Differential Association									
Pro-Social Peers+	.039*	*.014	1.04	1.01, 1.07	.010	.014	1.00	0.97, 1.02	
Delinquent Peers	001	.009	0.99	0.97, 1.00	004	.008	0.99	0.96, 1.00	
Social Bonding									
Mother Attachment	.004	.011	1.00	0.98, 1.02	014	.009	1.00	0.96, 1.01	
Father Attachment	001	.009	0.99	0.97, 1.00	.001	.001	1.00	0.97, 1.01	
Parental Monitoring	029	.032	0.97	0.91, 1.03	065*	.020	0.99	0.88, 0.97	
School Commitment	.010	.029	1.01	0.95, 1.07	.026	.016	1.00	0.99, 1.07	
Beliefs	013	.015	0.98	0.96, 1.02	023	.014	0.98	0.95, 1.00	
Controls									
Self-Reported Delinquency	.283**	**.247	1.32	1.23, 1.42	.228**	*.199	1.27	1.17, 1.34	
Age	.258*	.124	1.29	0.93, 1.56	053	.111	0.95	0.75, 1.17	
African-Americans	.499*	.208	1.64	1.28, 2.68	.075	.189	1.07	0.75, 1.61	
Hispanic	289	.286	0.75	0.46, 1.24	055	.239	0.95	0.61, 1.56	
Other	.333	.343	1.39	0.77, 2.63	.243	.190	1.27	0.87, 1.86	
Intact Family	257	.222	0.77	0.55, 1.31	319*	.131	0.73	0.54, 0.92	
Gang Member	.702*	.301	2.01	1.77, 2.72	.781**	*.215	2.18	1.03, 2.62	
Constant	-7.08	1.71	0.00	-10.41, -3.74	464	1.84	0.16	-4.37, 3.44	
$\chi^2 =$	167.587***				228.661***				
-2 Log Likelihood=	-522.43				-680.99				
Nagelkerke R <sup>2</sup> =	0.17				0.20				

 Table 2: Logistic Regression Predicting Serious Victimization by Sex

Note: \*p<.05, \*\*p<.01, \*\*\*p<.001, + represents regression coefficients that are significantly different across sex